ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

NYD986886174

PHASE II INVESTIGATION

SP Materials
Kings Park

Site No. 152093
Suffolk County

DATE: October 1993

Prepared for:
New York State
Department of
Environmental Conservation

50 Wolf Road, Albany, New York 12233
Thomas C. Jorling, *Commissioner*

Division of Hazardous Waste Remediation
Michael J. O'Toole, Jr., P.E., *Director*

BY:
YEC, Inc.
in association with
Lawler, Matusky & Skelly Engineers

TABLE OF CONTENTS

Page No.

LIST OF FIGURES iii
LIST OF TABLES iv

1 EXECUTIVE SUMMARY 1-1

2 PURPOSE 2-1

3 DESCRIPTION OF PHASE II INVESTIGATION 3-1

3.1 Literature Review 3-1
3.2 Site Reconnaissance 3-2
3.3 Geophysics 3-2
3.4 Soil Gas 3-2
3.5 Groundwater Investigation 3-3

3.5.1 General Boring/Monitoring Well Details 3-3
3.5.2 Permeability Testing 3-7

3.6 Other Phase II Work Tasks 3-8
3.7 Sampling 3-8

3.7.1 Groundwater Sampling 3-8
3.7.2 Soil Sampling 3-11

3.8 Surveying 3-12

4 SITE ASSESSMENT 4-1

4.1 Site History 4-1
4.2 Site Topography 4-2
4.3 Geology 4-3

4.3.1 Bedrock 4-3
4.3.2 Unconsolidated Deposits 4-4

4.4 Hydrogeology 4-5
4.5 Other Data 4-7

TABLE OF CONTENTS
(Continued)

Page No.

4.6 Phase II Results 4-7

4.6.1 Site Inspection 4-7
4.6.2 Geophysics 4-8
4.6.3 Soil Gas Data 4-8
4.6.4 Soil Data 4-9
4.6.5 Groundwater Data 4-10

4.7 Conclusions 4-11

4.7.1 Soil 4-11
4.7.2 Groundwater 4-11

4.8 Recommendations 4-12

APPENDIX

A - Boring Logs and Well Diagrams

B - Well Development/Purging Logs

C - Data Usability Summary

D - Pertinent Files or Records

E - EPA 2070-13 Forms

F - List of Supporting Documentation

PLATE

A - Site Survey Map

LIST OF FIGURES

Figure No.	Title	Following Page
1.1	Site Location Map	1-1
1.2	Detailed Site Map	1-1
1.3	Site Photographs	1-1
3.1	Monitoring Well and Sample Location Map	3-2
3.2	Soil Gas Survey Location Map	3-3
4.1	Site Location Map	4-1
4.2	(A) Location of the Harbor Hill and Ronkonkoma Terminal Moraines and (B) Generalized Geologic Cross Section	4-3
4.3	Location of Cross Section Across Site	4-5
4.4	Geologic Cross Section Across Site	4-5
4.5	Groundwater Contour Map	4-7
4.6	Soil Gas Survey Location Map	4-8
4.7	Tetrachloroethene Concentration Contours	4-8
4.8	Trichloroethane Concentration Contours	4-8
4.9	Trichloroethene Concentration Contours	4-8
4.10	Sample Location Map	4-9

LIST OF TABLES

Table No.	Title	Page No.
4.1	Soil Data Summary (Metals)	4-9A
4.2	Soil Data Summary (Organics)	4-9B
4.3	Groundwater Data Summary (Metals)	4-10A
4.4	Groundwater Data Summary (Organics)	4-10B

SECTION 1

EXECUTIVE SUMMARY

The SP Materials site is an active sand and gravel company located at 170 Townline Road in the Hamlet of Kings Park in the Town of Smithtown, Suffolk County, New York (Figure 1.1). The site includes two parcels of land totaling 9.6 acres in size used for mining, processing, stockpiling, and distribution of sand and gravel. One parcel is approximately 6 acres in size (Figure 1.2). Located on it are a small office, workshop, storage shed, lagoon, and various mining equipment. The second parcel, approximately 3.6 acres in size (Plate A), located south and west of Old Northport Road and east of Townline Road, is used for mining sand and gravel. Photographs of the site are shown in Figure 1.3.

In 1973, Mr. Stephen Pomaro purchased 6 acres from a sand company owned by Mike Nasti. In 1981, Mr. Pomaro purchased an additional 1.4 acre parcel and shortly after, he purchased another 2.2 acre parcel. These last two parcels (totaling 3.6 acres) are used for sand and gravel excavation.

On May 16, 1983 the New York State Department of Environmental Conservation (NYSDEC) issued a three year renewable permit to SP Materials to mine sand and gravel on the second parcel (3.6 acre parcel) only. A one year renewable construction and demolition permit was issued by NYSDEC on July 1, 1983. Acceptable wastes were limited to fines, oversized rocks, and demolition debris consisting of broken cobble, brick, and wood. On September 18, 1984 an inspection by NYSDEC noted the presence of unacceptable material (vehicle parts) at the site. A subsequent inspection on September 21, 1984 noted that the material present at the first inspection had been removed. However, the inspector noted truck parts (brake drums) were about to be dumped into the excavated area.

Fifteen to twenty truck loads of construction and demolition material were disposed on site between 1983 and 1984. According to the owner, the site was placed on the Registry of Inactive Hazardous Waste Disposal Sites when a NYSDEC inspector noted the presence of a rusted drum on site. The site was classified as 2a which is a

PHOTO DESCRIPTIONS

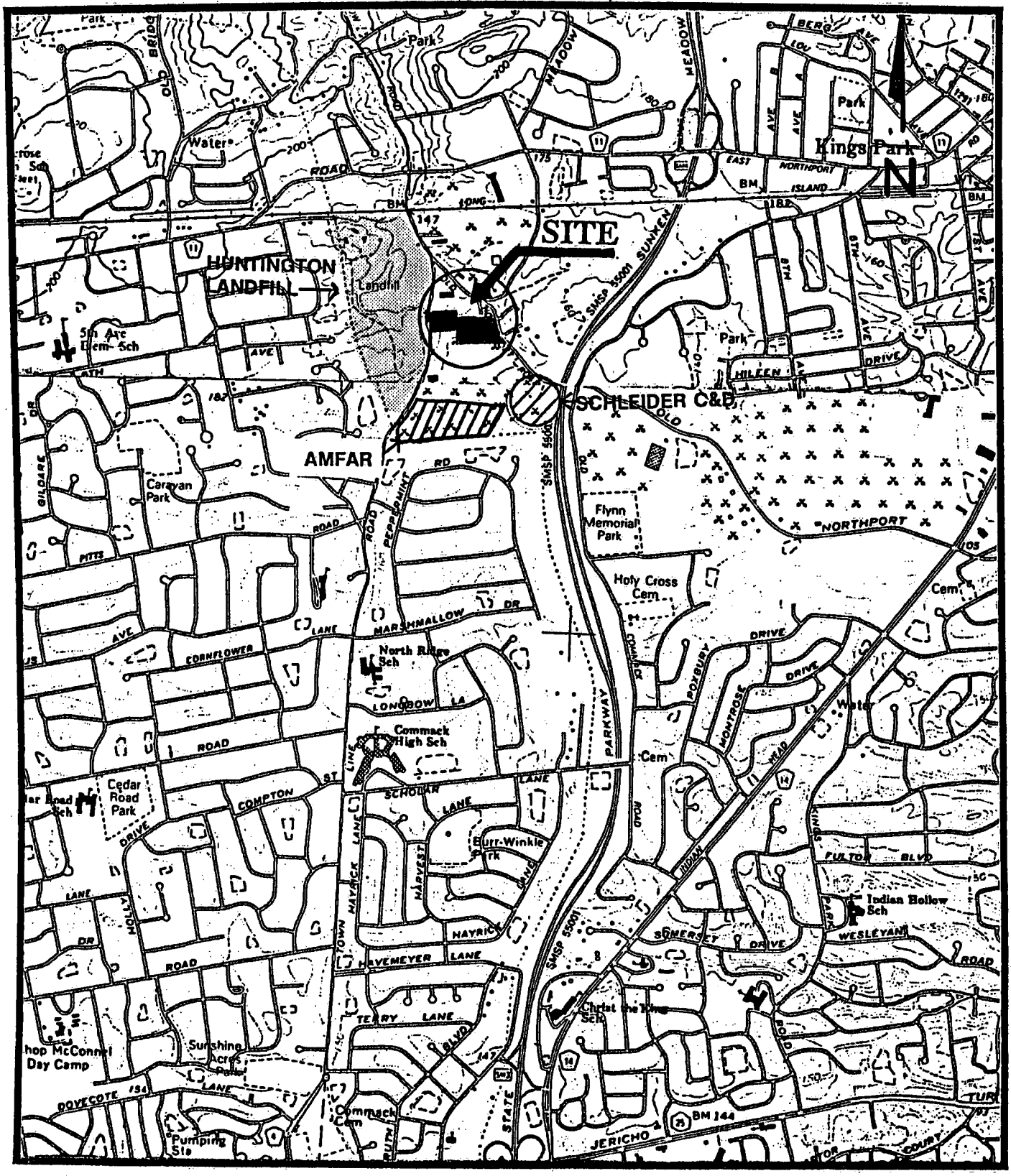
1. Looking southwest from inside the pit where soil boring SB-1 is located.

2. Looking northwest from top of bank. Flagged stake marks location of MW-2. East Northport landfill is in the background.

3. Looking southwest across the site from top of bank near Old Northport Road.

4. Looking northeast into the pit where SB-1 is located. The background soil sample (BG-1) was collected from the soil from the ledge below concrete pipe in background of photograph.

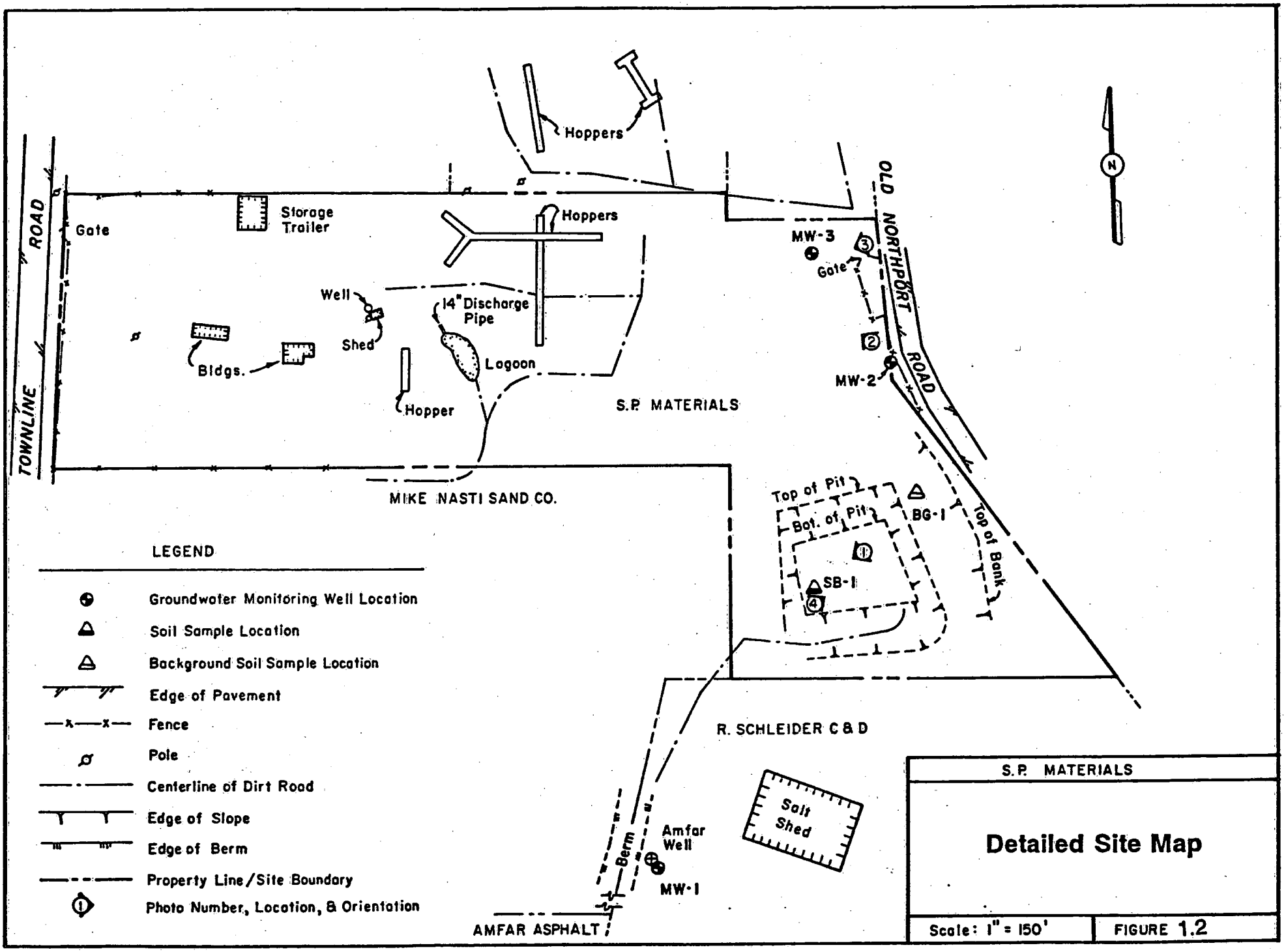
FIGURE 1.1
SITE LOCATION MAP
S.P. MATERIALS SITE PHASE II INVESTIGATION
KINGS PARK, SMITHTOWN, N.Y.



SITE COORDINATES:
LATITUDE: 40° 52' 00" N
LONGITUDE: 73° 17' 00" W

USGS QUADRANGLE MAP
Northport and Greenlawn, 1967

Scale 0 3000 Feet


Hoppers
Storage Trailer
Gate
TOWNLINE ROAD
Hoppers
OLD NORTHPORT ROAD
MW-3
Gate
Well
14" Discharge Pipe
Shed
Bldgs.
Lagoon
Hopper
MW-2
S.P. MATERIALS
MIKE NASTI SAND CO.
Top of Pit
Bot. of Pit
BG-1
SB-1
Top of Bank
R. SCHLEIDER C & D
Salt Shed
Berm
Amfar Well
MW-1
AMFAR ASPHALT
N
LEGEND
Groundwater Monitoring Well Location
Soil Sample Location
Background Soil Sample Location
Edge of Pavement
Fence
Pole
Centerline of Dirt Road
Edge of Slope
Edge of Berm
Property Line/Site Boundary
Photo Number, Location, & Orientation
S.P. MATERIALS
Detailed Site Map
Scale: 1" = 150'
FIGURE 1.2

temporary classification assigned to sites that have inadequate and/or insufficient data for inclusion in any of the other classifications. No sampling has been done on the site in the past.

There are several other Registry sites in the area including the East Northport Landfill and the R. Schleider C&D site. One delisted site, Amfar Asphalt is located south of the SP Materials site. The East Northport Landfill (aka The Huntington Town Landfill) is located west of the site (Figure 1.1) and is a Class 2 site. It was in operation for over 50 years and accepted municipal waste, demolition debris, household trash, and some hazardous waste. From 1972 - 1983 the Suffolk County Department of Health Services sampled and analyzed groundwater from residential wells in the vicinity of the landfill. The results indicated elevated levels of some heavy metals (iron, manganese, zinc, and sodium) and the presence of several organic contaminants (tetrachloroethylene, trichloroethane and trichloroethene). From 12/13/88 to 1/15/89 the Town of Huntington conducted a priority pollutant analysis of the leachate from the East Northport Landfill. The results indicated the presence of heavy metals, phenols, tetrachloroethene, 1,2 dichlorobenzene, benzene, toluene, ethylbenzene, and xylenes. It has been reported that the leachate plume from the landfill moves in a northeastern direction. The Amfar site, south of SP Materials, was listed as a Class 2a site on the registry and has recently been delisted. The Schleider site, south west of SP Materials, is classified as a 2a site.

A Phase I Hazardous Waste Site Investigation of SP Materials was completed in September, 1989 by YEC, Inc. of Valley Cottage, New York. It was concluded that a sampling program was necessary to better characterize the site. On May 5, 1992 YEC personnel conducted a site reconnaissance at SP Materials as a preliminary task to a Phase II Hazardous Waste Site Investigation for the New York State Department of Environmental Conservation. No waste was observed on site. The scope of work included a file search for the site, a soil gas survey in the sand pit on site, the installation of three monitoring wells, and one soil boring in the sand pit. A sampling program was also planned which included monitoring well sampling, one background surface soil sample, and subsurface soil sampling from monitoring well borings and the sand pit area.

The site lies on Pleistocene glacial outwash sediments of the upper glacial aquifer.

These sediments have hydraulic conductivities in the range of 9.44 X 10^{-2} cm/s. The groundwater flow direction at the site is northeast. Depth to groundwater in monitoring wells at the site was approximately 8.5 to 63.4 feet below ground surface (146 feet AMSL to 150 feet AMSL).

The results of the Phase II investigation indicate the presence of two chlorinated hydrocarbon pesticides, alpha and gamma chlordane, in the subsurface soil sample SB-1. Alpha and gamma chlordane were reported just outside the detection limit and were not detected in the groundwater samples. No TAL metals were detected in the subsurface soil sample SB-1 outside the typical range of elements for soils. For the surface soil sample BG-1, no TAL metals were detected outside the typical range of elements for soils. No organic compounds were reported above the detection limit.

Both downgradient wells MW-2 and MW-3 had concentrations of iron, manganese and sodium that exceeded the NYSDEC GA standards/guidance values. Iron was detected in the upgradient well at a higher concentration than the downgradient wells. The high concentration of sodium reported for both downgradient wells may be due to runoff from Old Northport Road which is located just east of the site. MW-2, which is closer to the road, had a higher concentration of sodium than did MW-3, which is located more than 80 feet west of the road. Manganese was detected in leachate samples collected from the East Northport Landfill which is located just west of the site. The concentration of manganese detected in the upgradient well also exceeded the standards. The Suffolk County Department of Health sampled private wells from 1972 - 1983. The results indicated elevated levels of sodium and manganese. Acetone exceeded the NYSDEC GA standard for this organic compound. It was detected in the upgradient well and may not be attributable to the site.

This investigation did not discover documented disposal of hazardous waste on the site as per 6 NYCRR part 371. It is therefore recommended that the SP Materials site be removed from the Inactive Hazardous Waste Site Registry.

SECTION 2

PURPOSE

YEC, Inc, under contract to Lawler Matusky & Skelly Engineers (LMS), which in turn is under contract to the New York State Department of Environmental Conservation, conducted a Phase II investigation of the SP Material site located in Suffolk County, New York. The investigation was targeted to address specific concerns regarding past construction and demolition disposal practices and to ascertain the presence or absence of hazardous waste.

Objectives of this Phase II investigation are:

- Provide a geological and hydrogeological site assessment, including a determination of depth to groundwater in the aquifer of concern.
- Identify and evaluate the presence, concentration, and nature of contamination.
- Determine the presence/absence of hazardous waste.
- Prepare a report documenting findings and outlining any recommendations for possible additional investigation.

SECTION 3

DESCRIPTION OF PHASE II INVESTIGATION

3.1 LITERATURE REVIEW

During the literature review, general information on regional geography, geology, and hydrology was obtained from the YEC library. Information and data were also gathered from Federal, state, county, and local offices.

The following agencies and individuals provided information and data regarding past operations and sampling activities:

Mr. James Radey
U.S. Environmental Protection Agency, Region II
26 Federal Plaza
New York, New York 10278
(212) 264-2301
Files

Mr. Don Miles
New York State Department of Health
Room # 205, 2 University Place
Albany, New York 12203
(518) 458-6310
Files

Mr. Dan Eaton
New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-7010
(518) 457-0639
Files

Suffolk County Soil & Water Conservation District
164 Old Country Road
Peconic Plaza
Riverhead, New York 11901
(516) 727-2315
Aerial Photographs

Mr. Bob Stewart
New York State Department of Environmental Conservation, Region I
SUNY Campus - Building 40
Stony Brook, New York 11794
(516) 751-4078
Files

Mr. Otto Reneberg
Suffolk County Department of Health Services
15 Horseblock Place
Farmingville, New York 11738
(516) 854-2537
Files

3.2 SITE RECONNAISSANCE

Prior to drilling and sampling at the SP Materials site, YEC conducted a site inspection on May 5, 1992 to:

- Identify the area of concern and work areas.
- Identify the presence of potential drilling and sampling hazards.
- Designate locations for monitoring wells, test borings, and background surface soil sampling.

Monitoring well and sampling locations are shown on Figure 3.1 and Plate A (at the back of this report).

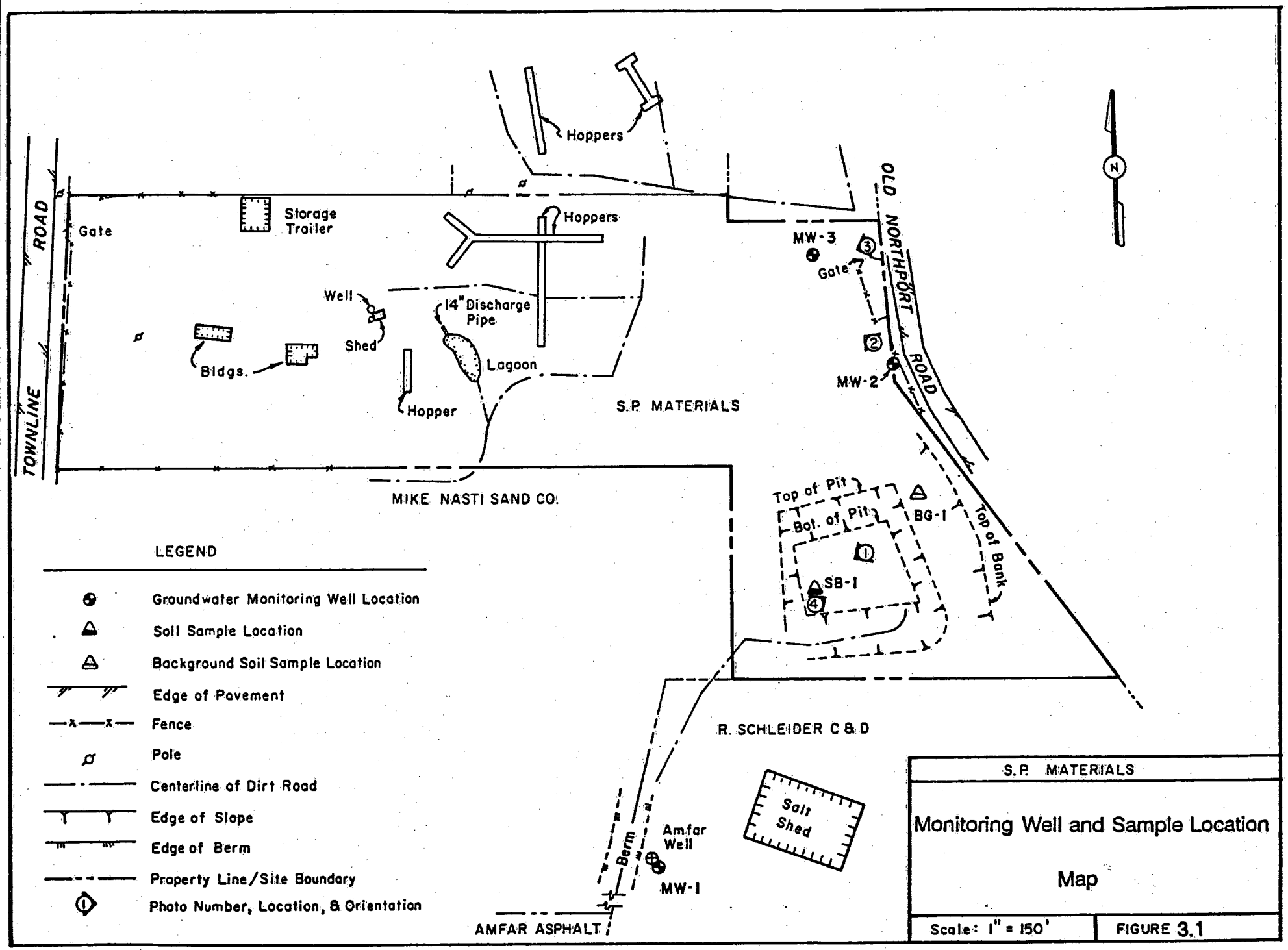
Air monitoring upwind and downwind of the site using a photoionization detector (PID) (HNU PI 101) was not performed during the site reconnaissance because of windy and dusty conditions and excessive site activity. Air monitoring using a RM-60/LCD-60 Micro-roentgen Radiation Monitor was performed at the site. No readings above background were reported. A YEC site-specific health and safety plan (HASP) was prepared based on site reconnaissance observations and data obtained from NYSDEC (Ref. 1).

3.3 GEOPHYSICS

All proposed monitoring well locations (MW-1, 2, and 3) and the soil boring location (SB-1) were cleared by YEC using a magnetometer. Only small amounts of surface scrap metal were detected in the sand pit where the soil boring (SB-1) was located and the soil gas survey was to be performed.

3.4 SOIL GAS

A soil gas survey was performed at the site on May 11 and 12, 1992 by Tetra K Testing, a division of Tighe & Bond, Inc. (Ref. 2). The soil gas survey was conducted in the bottom of the sand pit area at the southeast corner of the site (Figure 3.2). The soil gas


Hoppers
Storage Trailer
Gate
TOWNLINE ROAD
Hoppers
Well
14" Discharge Pipe
Shed
Bldgs.
Lagoon
Hopper
S.P. MATERIALS
MIKE NASTI SAND CO.
OLD NORTHPORT ROAD
MW-3
Gate
MW-2
Top of Pit
Bot. of Pit
BG-1
SB-1
Top of Bank
R. SCHLEIDER C & D
Salt Shed
Berm
Amfar Well
MW-1
AMFAR ASPHALT
N
LEGEND
Groundwater Monitoring Well Location
Soil Sample Location
Background Soil Sample Location
Edge of Pavement
Fence
Pole
Centerline of Dirt Road
Edge of Slope
Edge of Berm
Property Line/Site Boundary
Photo Number, Location, & Orientation
S.P. MATERIALS
Monitoring Well and Sample Location Map
Scale: 1" = 150'
FIGURE 3.1

survey consisted of the following procedure. A steel rod is driven into the ground using a sliding hammer. Once a hole is established, a thin plastic tube with a steel point is inserted in the hollow steel rod and placed downhole. When the desired depth is reached, the rod is removed and the tube remains in the hole and the hole is sealed. A sand layer is placed at the bottom of the hole (to cover end of the tube), then bentonite is used to fill remainder of the hole. A clay plug is then placed to surface to prevent outside gases from entering the hole. Soil gas samples collected in the field were injected into the Gas Chromatograph (GC) using a gas-tight syringe. A HNU Model 421 Gas Chromatograph was used. Twenty soil gas points were monitored for volatile organic compounds.

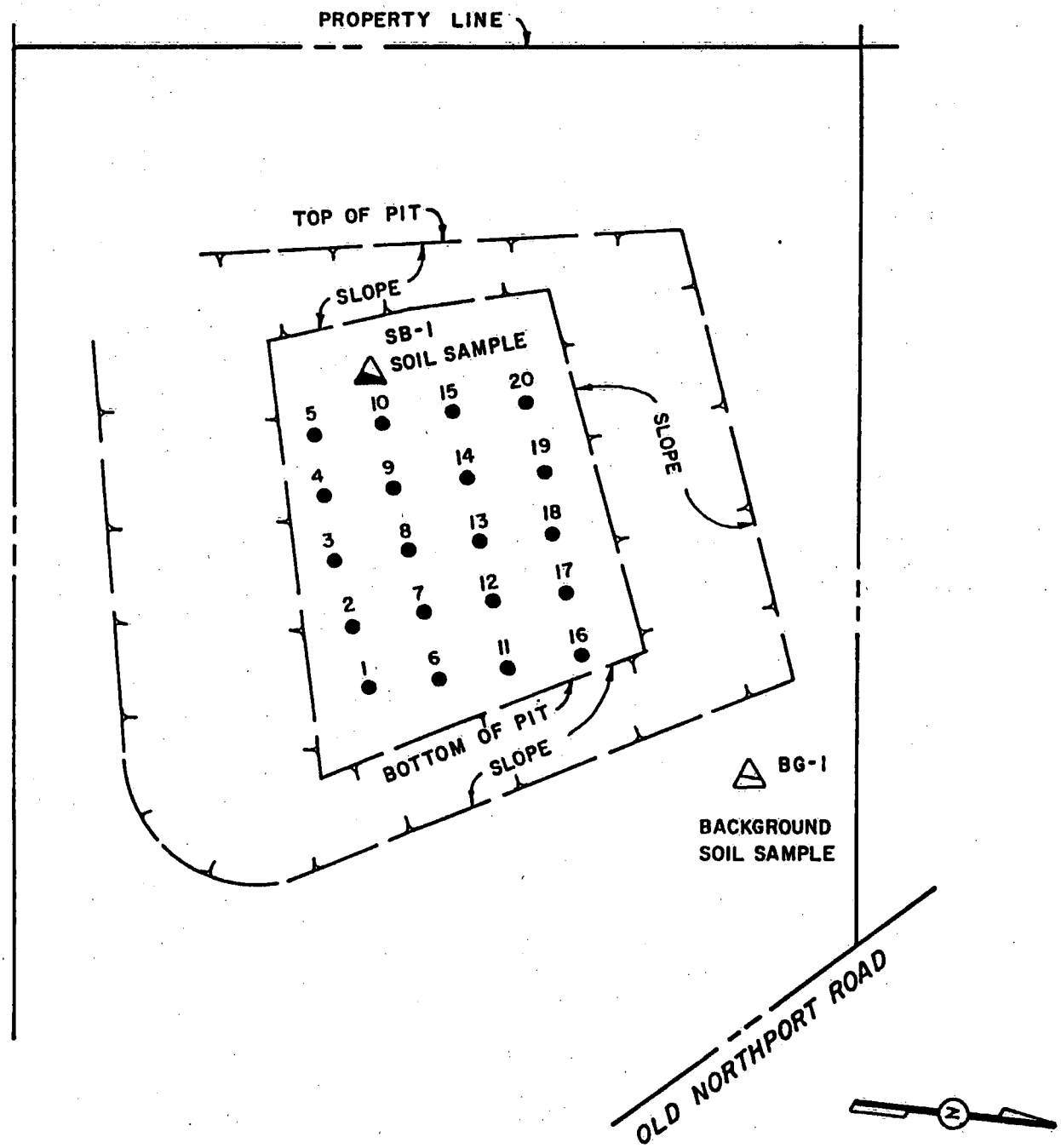
3.5 GROUNDWATER INVESTIGATION

The objectives of the groundwater investigation were to examine and characterize the local subsurface geological and hydrogeological conditions and to identify the presence and nature of groundwater contamination at the site. This was accomplished by installing several test borings in overburden materials and obtaining soil samples for visual and laboratory examination if necessary. Three monitoring wells were installed, one upgradient, and two downgradient of the site (Figure 3.1). Soil and groundwater were analyzed to determine the degree of contamination at the site if any.

3.5.1 General Boring/Monitoring Well Details

Between June 15 and June 22, 1992, Delta Well and Pump of Ronkonkoma, New York installed three monitoring wells and drilled one test boring at the site (Figure 3.1). Drilling was performed under the supervision of a YEC geologist. All boring and monitoring well installation procedures followed NYSDEC's *Guidelines for Exploratory Boring and Monitoring Well Installations (Exhibit 3).* Health and safety protection during the drilling and well installation was confined to Level D.

Drilling and sampling equipment was steam cleaned in a designated area prior to initiation of any drilling activities and in the vicinity of each boring following its completion. PVC screen and casing used in monitoring well construction was also steam cleaned before being introduced into any borehole.



LEGEND

● SOIL GAS SAMPLING POINT

1 LOCATION AND DESIGNATION

SCALE: 1" = 150'

Soil Gas Survey Location Map

S. P. MATERIALS

FIGURE 3.2

The procedure for advancing both investigatory test borings and those to be converted to monitoring well locations included the use of a truck-mounted mobile drilling rig. Split spoon samples were collected from the ground surface and at five-foot intervals to the point at which the boring was either terminated or bedrock was encountered using standard ASTM D-1586 penetration methods. All recovered soil samples were logged at the borehole by a YEC geologist. All drilling water was from a local potable source located on-site. General construction guidelines for overburden monitoring wells followed Exhibit 3 specifications; 2-in. I.D. PVC screen and riser were used in the borehole.

After the well casing was installed, a sand pack was installed from 1 ft beneath the screened interval in the annulus around the screen to a depth of 2 feet above the top of the screen. A 1 foot bentonite pellet seal and a 1 foot bentonite powder slurry seal was either poured or pumped onto the top of the sand pack in each well. Bentonite was generally at least 2 ft thick when conditions allowed. Bentonite pellets were allowed to hydrate in the borehole before the addition of the cement/bentonite seal, which was mixed and pumped into a depth of 2 ft below grade. Any remaining annulus was backfilled with type 1 portland cement with a sand aggregate or a cement/sand mix. A locking protective steel casing was set over the PVC casing into the cement grout with a minimum stickup of approximately 2 ft. Deviations from the standard borehole fill thickness are caused primarily by flowing sands, which prevent a sand slug below the screen, and by shallow water table depth, which brings the screen interval to a depth close to the ground surface for normal thickness of backfill material to be used. If this occurs, decisions are made in the field by YEC geologists and NYSDEC oversight personnel concerning the best procedure for completing the well construction without sacrificing sampling quality or overall well integrity.

Specific monitoring well construction details are discussed in the following sections. Boring logs and well diagrams are included in Appendix A.

3.5.1.1 ***Monitoring Well MW-1.*** The test boring for this monitoring well was located southwest of the site at the location of a monitoring well (deemed unusable) located on the R. Schleider C&D site. The location was selected to obtain background chemical concentrations in the groundwater at an upgradient location (see Figure 3.1).

The first 12 feet of the boring at MW-1 consisted of a fill material composed of brown to black, medium to coarse sand and gravel. The remainder of the boring down to a depth of 22 feet consisted of brown to tan, fine to coarse sand and gravel.

The monitoring well was constructed of a 2-inch ID Schedule 40 flush-jointed polyvinyl chloride (PVC) riser with a 10-foot long, 2-inch ID Schedule 40 PVC 0.010 inch slotted well screen. The completed screened interval was 20 ft to 10 ft. The surrounding sand pack was extended upward to a depth of 8 ft. A 1-ft bentonite pellet seal and a 1-ft bentonite slurry were then installed and allowed to hydrate, followed by a bentonite/portland cement grout pumped in to a depth of 2 ft. The remaining annulus was backfilled with a cement/aggregate mixture. A protective locking steel casing was installed with approximately a 3 foot stickup (Appendix A).

3.5.1.2 Monitoring Well MW-2. The test boring for this monitoring well was located just west of Old Northport Road in the eastern portion of the site. This location is along a dirt roadway on a ridge rising about 50 feet higher than most of the site. The location was selected to obtain chemical concentrations in the groundwater at a downgradient location (see Figure 3.1).

In boring MW-2, a brown, fine to coarse grained sand and gravel with varying amounts of gravel and some trace silt was encountered. At a depth of 20 to 22 feet, the sand took on a black color. From 30 to 37 feet, the sand was medium to coarse grained with some cross-bedding. From 40 to 67 feet, a light brown to tan medium sand was encountered, compact at times. Fine grained sand was again encountered at 70 feet. At 72 feet, the sand returned to a light brown to tan medium sand.

The monitoring well was constructed of a 2-inch ID Schedule 40 flush-jointed polyvinyl chloride (PVC) riser with a 10 foot long, 2-inch ID Schedule 40 PVC 0.010 inch slotted well screen. The completed screened interval was 75 ft to 65 ft and the surrounding sand pack was extended upward to a depth of 63 ft. A 1-ft bentonite pellet seal and a 1-ft bentonite slurry were then installed and allowed to hydrate, followed by a bentonite/portland cement grout pumped in to a depth of 2 ft. The remaining annulus was backfilled with a cement/aggregate mixture. A protective locking steel casing was installed with approximately a 3 ft stickup (Appendix A).

3.5.1.3 Monitoring Well MW-3. The test boring for this monitoring well was located northwest of MW-2 and west of Old Northport Road in the northeastern portion of the site. Boring MW-3 is located at the bottom of a slope bordering Old Northport Road. The location was selected to obtain chemical concentrations in the groundwater at a downgradient location (see Figure 3.1).

In boring MW-3, a brown, medium to coarse grained sand and gravel with pieces of wood, plastic, and aluminum fence wire were encountered to a depth of 12 feet. From 12 feet to approximately 40 feet, the subsurface materials consisted of brown to tan, medium to coarse grained sand with varying amounts of gravel and some bedding. A layer of coarse sand and some gravel was encountered at 40 to 42 feet. A layer of brown to tan to red medium to coarse sand with only trace gravel was encountered from 42 to 52 feet.

The monitoring well was constructed of a 2-inch ID Schedule 40 flush-jointed polyvinyl chloride (PVC) riser with a 10 foot long, 2-inch ID Schedule 40 PVC 0.010 inch slotted well screen. The completed screened interval was 50 ft to 40 ft and the surrounding sand pack was extended upward to a depth of 38 ft. A 1-ft bentonite pellet seal and a 1-ft bentonite slurry was then installed and allowed to hydrate, followed by a bentonite/portland cement grout pumped in to a depth of 2 ft. The remaining annulus was backfilled with a cement/aggregate mixture. A protective locking steel casing was installed with approximately a 3 foot stickup (Appendix A).

Well Development. The 3 newly installed monitoring wells were developed on June 18 through June 22, 1992 by YEC using bailing and pumping or a combination of these methods. The main objective of development is to rapidly move groundwater in and out of the sand pack, creating a disturbance that will clean the borehole skin or bedrock fractures of fine-grained material that becomes trapped during the drilling process. Each well was developed until the turbidity of expelled groundwater was lowered to no more than 50 nephelometric turbidity units (NTU) and pH, temperature, and specific conductance measurements stabilized. The maximum time allowed for development, 4 hrs, was not exceeded at any of the wells. Well development data appear in Appendix B.

3.5.2 Permeability Testing

Following groundwater sampling, the previously installed wells and newly installed monitoring wells (MW-1,2, and 3) were slug tested. The purpose of a slug test is to determine hydraulic conductivity at individual monitoring points within the screened interval so as to characterize the aquifer properties and determine the uniformity of subsurface materials. Slug testing is performed at each well under static conditions by rapidly displacing a known volume of water within the well casing. The recovery to static conditions is recorded by submerging a RocTest Water Level Indicator model CPR 6. At each monitoring well at the SP Materials site, recovery of the well to static conditions was too fast to be measured using an electronic water level meter. Hydraulic conductivity values characteristic of the subsurface materials comprising the aquifer were estimated from other literature.

HYDRAULIC CONDUCTIVITY ESTIMATES

SP MATERIALS SITE NO. 152093

HYDRAULIC CONDUCTIVITY				
Monitoring Well ID.	**Range (cm/s)[1]**	**Average (cm/s)[2]**	**Screened Interval**	**Development Pump Rate**
MW-1	$1.0 - 10^{-4}$	6.6×10^{-2}	sand/gravel	1.5 gpm
MW-2	$1.0 - 10^{-4}$	6.6×10^{-2}	sand/gravel	1 gpm
MW-3	$1.0 - 10^{-4}$	6.6×10^{-2}	sand/gravel	.5 gpm

[1] Environmental Protection Agency. 1987. *Handbook-Groundwater.*

[2] United States Geological Survey. 1972. *Water Transmitting Properties of Aquifers on Long Island, NY.*

3.6 OTHER PHASE II WORK TASKS

No other Phase II work tasks were conducted.

3.7 SAMPLING

Groundwater, surface and subsurface soil samples were collected from the three monitoring wells and soil on the SP Materials site. All sampling methods were discussed with and approved by NYSDEC personnel before sampling proceeded.

Analysis of samples in this Phase II investigation is limited to target analyte list (TAL) metals and cyanide, volatile organic compounds (VOCs), base neutral acids (BNAs), and pesticides/PCBs. The groundwater samples were also analyzed for Total Dissolved Solids (TDS), Total Suspended Solids (TSS) and Chemical Oxygen Demand (COD). The type of chemicals/contamination likely to be present at the site was determined from the site history, and previous sampling data.

3.7.1 Groundwater Sampling

Sampling of the groundwater from the three Phase II installed monitoring wells was conducted by a YEC crew on June 30, 1992 (Ref. 3). The 3 monitoring wells, MW-1,2, and 3 (Figure 3.1), were purged and sampled according to NYSDEC protocols and the samples were submitted to Aquatec Inc. of Colchester Vermont, for analysis. All groundwater samples were analyzed for TAL metals and cyanide, volatile organic compounds, base neutral acids, pesticides/PCBs, Total Dissolved Solids (TDS), Total Suspended Solids (TSS), and Chemical Oxygen Demand (COD) (Refs. 4, 5).

Prior to sampling, the initial top of static water levels and monitoring well bottom depths were measured with an electronic water level meter to 0.01 ft. The volume of water to be purged was calculated based on a 2 inch PVC diameter and the height of the water column. The wells were purged with an inertia pump using dedicated polyethylene tubing and foot valves.

The general procedure is to purge from the bottom of the well initially to remove any accumulated fines. The pumping rate is then adjusted to maintain a steady recovery

and pumping volume. If a steady state can be achieved, and any silt has been removed from the bottom of the well, the intake of the tubing is gradually raised to the top of the water column to ensure that the entire water column has been purged. If the well purges dry before the calculated volume has been removed, the well is allowed to recover and purged again to ensure that the groundwater in the immediate area of the well has been removed. In general, a minimum of three to five well volumes is purged from each well unless the well purges dry before this is accomplished. Turbidity, specific conductance, pH, and temperature are measured at intervals during the purging with calibrated instruments. The objective of the purging process is to ensure representative groundwater samples with turbidity values of 50 NTU or less so as to meet NYSDEC water clarity requirements for sample analysis.

After being purged, the wells were allowed to recover to at least 90% of the initial water column volume before sampling commenced. Samples were collected with dedicated laboratory-cleaned PVC bailers from the top of the well water column. Temperature, pH, specific conductance, and turbidity were measured during sampling (see table below). Every effort was made to achieve a level of turbidity below 50 NTU.

If it was not possible to achieve a level below 50 NTU, then the following alternative sampling procedure was followed for metals. If the NTU level was between 50 and 100, the sample was taken as a normal sample (just one sample). If the NTU level was above 100 the sample collected for metal analysis was split into two samples. One portion was filtered through a 0.45 micron filter and the second portion remained unfiltered. The samples were filtered as soon as possible to minimize the impacts of pH and Eh changes. Both samples were preserved with nitric acid to a pH of less than two. If it were determined that the potential for PCB contamination existed at the site and the NTU level exceeded 100, one portion of the sample was filtered through a glass mesh 0.45 micron filter and the second portion remained unfiltered. Both samples would have been kept at 4 degrees celsius (34.2 degrees fahrenheit) once the samples had been collected.

All samples were placed in precleaned bottles/vials provided by Aquatec. All sample bottles were labeled with the site name, job number, sample ID., date/time, and parameters for analysis. Preservatives were added in the field where applicable. Sample containers were then packed in iced coolers to maintain a temperature of 4

degrees celsius, and sent priority overnight by Federal Express daily under chain-of-custody protocol to Aquatec (Ref. 3).

GROUNDWATER CHEMISTRY

SP MATERIALS SITE NO. 152093

Monitoring Well ID.	Volume Purged (gal)	Temperature (°C)	pH (Units)	Specific Conductance µmhos/cm @ 25°C	Turbidity (NTU)
MW-1	15	12.3	7.58	1050	14
MW-2	12	15.6	7.51	1636	30
MW-3	13	13.3	7.12	1232	38

Note: pH, Temperature, Specific Conductivity, and Turbidity measurements taken at time of sampling.

3.7.1.1 ***MW-1.*** Monitoring well MW-1, a newly installed overburden well upgradient of the site was purged with an inertial pump equipped with dedicated polyethylene tubing and a foot valve. The well was purged at 1.5 gpm throughout the water column. A total of 15 gallons was purged from the well. Turbidity was initially >100 NTU in the purged water and decreased slowly to 14 NTU during the purge process. Filtering of metals samples was not necessary because the turbidity at time of sampling was below 100 NTU.

3.7.1.2 ***MW-2.*** Monitoring well MW-2, a newly installed overburden well downgradient of the site was purged with an inertial pump equipped with dedicated polyethylene tubing and a foot valve. The well was purged at 1.0 gpm throughout the water column. A total of 12 gallons was purged from the well. Turbidity was initially >100 NTU in the purged water and decreased slowly to 30 NTU during the purge process. Filtering of metals samples was not necessary because the turbidity at time of sampling was below 100 NTU.

3.7.1.3 ***MW-3.*** Monitoring well MW-3, a newly installed overburden well downgradient of the site was purged with an inertial pump equipped with dedicated polyethylene tubing and a foot valve. The well was purged at 0.5 gpm throughout the water column. A total of 13 gallons was purged from the well. Turbidity was initially >100 NTU in the purged water and decreased slowly to 38 NTU during the purge process. Filtering of metals samples was not necessary because the turbidity at time of sampling was below 100 NTU.

3.7.2 Soil Sampling.

3.7.2.1 ***Subsurface Soil Sampling.*** One subsurface soil sample (SB-1) was collected on June 22, 1992 during the drilling of soil boring SB-1 (Figure 3.1). SB-1 was collected at a depth of 10 ft below grade. All samples were collected with steam-cleaned 2-inch diameter split spoons. Labeling, preservation, chain-of-custody, and shipping procedures were identical to those described for the groundwater samples. The samples were delivered to Aquatec and analyzed for TAL metals and cyanide, volatile organic compounds, base neutral acids, and pesticides/PCBs (Ref. 3).

In addition, during the drilling of the boreholes for monitoring wells, MW-1,2, and 3, one split-spoon sample from each screened interval was submitted for geotechnical analysis to Empire Soils of Middleport, NY. (Ref. 6). The samples were analyzed for Grain Size Distribution, ASTM D 422 and Atterberg Limits, if possible. The samples were non-plastic, and therefore Atterberg Limits (ASTM D 4318) were not performed.

3.7.2.2 ***Surface Soil Sampling.*** One background surface soil sample (BG-1) was collected on June 22, 1992. Sample locations were selected from workplan recommendations and approved by a NYSDEC representative before sampling commenced (Figure 3.1). BG-1 was collected from an area 20 feet east of the excavation pit and 40 feet west of the berm. The sample was collected with a hand trowel from a depth of 1 foot below the ground surface. Labeling, preservation, chain-of-custody, and shipping procedures were identical to those described for the groundwater samples. The sample was delivered to Aquatec and analyzed for TAL metals and cyanide, volatile organic compounds, base neutral acids, and pesticides/PCBs (Ref. 3).

3.8 SURVEYING

Following the completion of the Phase II sampling program, a survey of geographical site features, locations and elevations of sampling points was completed by YEC, Inc. on July 16, 1992. All sampling points and site features were surveyed for horizontal and vertical location. This data was then used to prepare detailed site maps and Plate A, a site survey map.

All horizontal distances and angles were measured using a Topcon GTS-3 Electronic Distance Meter. Ground surface elevations were determined utilizing a Topcon AT-F3 Differential Level Instrument.

Property lines were obtained from a Town of Smithtown Tax Assessment Map. Elevations were approximate USGS datum. All surveying was done by YEC's New York State Licensed Land Surveyor (L.S.).

SECTION 4

SITE ASSESSMENT

4.1 SITE HISTORY

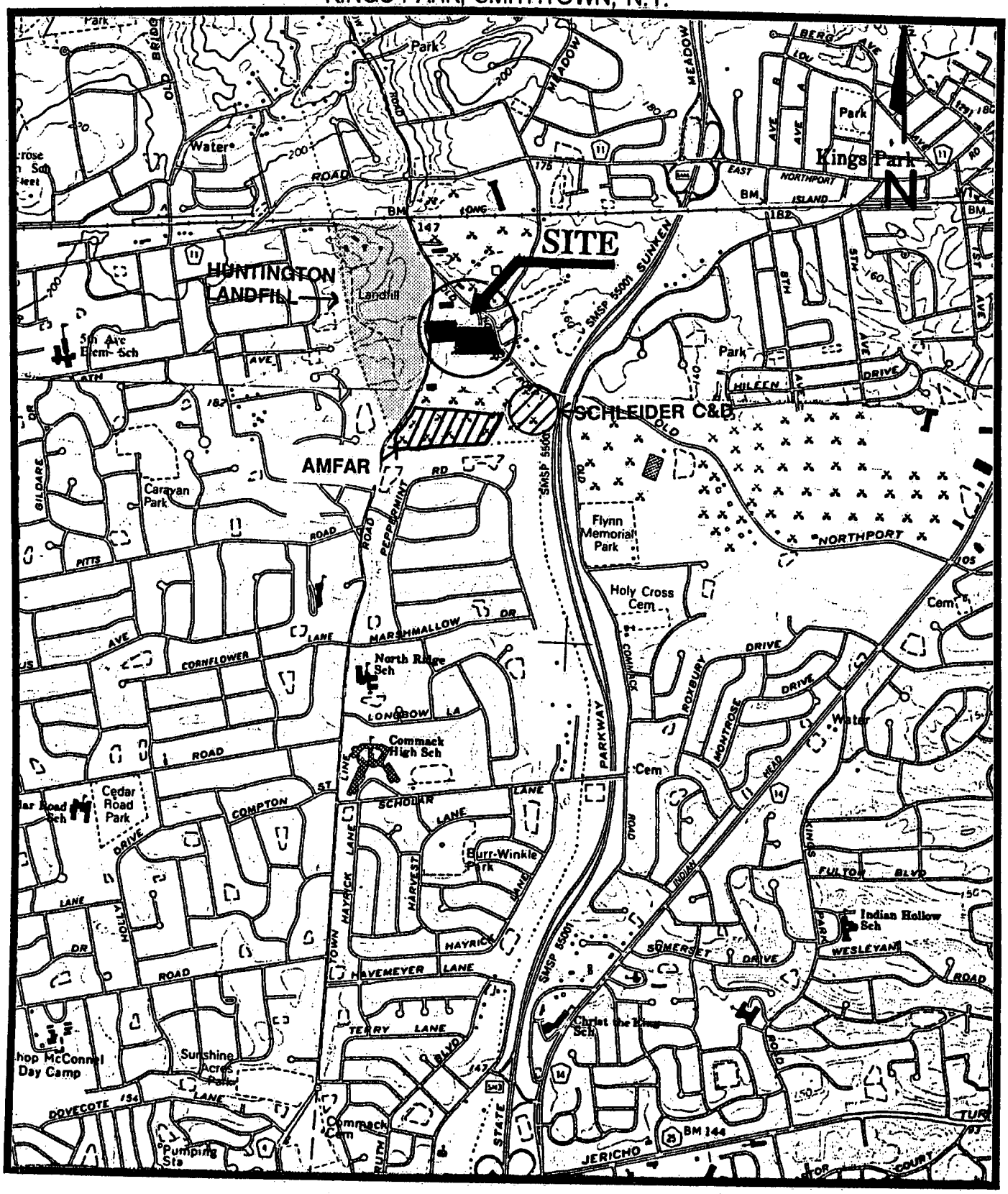
The SP Materials site is an active sand and gravel company located at 170 Townline Road in the Hamlet of Kings Park in the Town of Smithtown, Suffolk County, New York (Figure 4.1) (Ref. 7). The site includes two parcels of land totaling 9.6 acres in size used for mining, processing, stockpiling, and distribution of sand and gravel. One parcel is approximately 6 acres in size. Located on it are a small office, workshop, storage shed, lagoon, and various mining equipment. The second parcel, approximately 3.6 acres in size (Plate A), located south and west of Old Northport Road and east of Townline Road, is used for mining sand and gravel (Ref. 8).

In 1973, Mr. Stephen Pomaro purchased 6 acres from a sand company owned by Mike Nasti. In 1981, Mr. Pomaro purchased an additional 1.4 acre parcel and shortly after, he purchased another 2.2 acre parcel. These last two parcels (totaling 3.6 acres) are used for sand and gravel excavation.

On May 16, 1983 the New York State Department of Environmental Conservation (NYSDEC) issued a three year renewable permit to SP Materials to mine sand and gravel on this parcel only (3.6 acre parcel) (Ref. 9). A one year renewable construction and demolition permit was issued by NYSDEC on July 1, 1983. Acceptable wastes were limited to fines, oversized rocks, and demolition debris consisting of broken cobble, brick, and wood (Ref. 10). On September 18, 1984 an inspection by NYSDEC noted the presence of unacceptable material (vehicle parts) at the site. A subsequent inspection on September 21, 1984 noted that the material present at the first inspection had been removed. However, the inspector noted truck parts (brake drums) were about to be dumped into the excavated area (Ref. 11).

Fifteen to twenty truck loads of construction and demolition material were disposed on site between 1983 and 1984 (Ref. 12). According to the owner, the site was placed on the Registry of Inactive Hazardous Waste Disposal Sites when a NYSDEC inspector

FIGURE 4.1
SITE LOCATION MAP
S.P. MATERIALS SITE PHASE II INVESTIGATION
KINGS PARK, SMITHTOWN, N.Y.



SITE COORDINATES:
LATITUDE: 40° 52' 00" N
LONGITUDE: 73° 17' 00" W

USGS QUADRANGLE MAP
Northport and Greenlawn, 1967

Scale 0 3000 Feet

noted the presence of a rusted drum on site (Ref. 13). The site was listed as a Class 2a site which is a temporary classification assigned to sites that have inadequate and/or insufficient data for inclusion in any of the other classifications. No sampling has been done on the site in the past.

There are several other Registry sites in the area including the East Northport Landfill and R. Schleider C&D site. One delisted site, Amfar Asphalt is located south of the SP Materials site. The East Northport Landfill (aka The Huntington Town Landfill) is located west of the site (Figure 4.1) and is a Class 2 site on the Registry. It was in operation for over 50 years and accepted municipal waste, demolition debris, household trash, and some hazardous waste (Ref. 14). From 1972 - 1983 the Suffolk County Department of Health Services sampled and analyzed groundwater from residential wells in the vicinity of the landfill. The results indicated elevated levels of some heavy metals (iron, manganese, zinc, and sodium) and the presence of several organic contaminants (tetrachloroethylene, trichloroethane and trichloroethene) (Ref. 15). From 12/13/88 to 1/15/89 the Town of Huntington conducted a priority pollutant analysis of the leachate from the East Northport Landfill. The results indicated the presence of heavy metals, phenols, tetrachloroethene, 1,2 dichlorobenzene, benzene, toluene, ethylbenzene, and xylenes (Ref. 14). It has been reported that the leachate plume from the landfill moves in a northeastern direction (Ref.16). The Amfar site, south of SP Materials, was listed as a Class 2a site on the registry and has recently been delisted (Figure 4.1). The Schleider site, south west of SP Materials, is classified as a 2a site (Ref.17) (Figure 4.1).

A Phase I Hazardous Waste Site Investigation of SP Materials was completed in September, 1989 by YEC, Inc. of Valley Cottage, New York. It was concluded that a sampling program was necessary to better characterize the site (Ref. 8). On May 5, 1992 YEC personnel conducted a site reconnaissance at SP Materials as a preliminary task to a Phase II Hazardous Waste Site Investigation for the New York State Department of Environmental Conservation. No waste was observed on site (Ref. 12).

4.2 SITE TOPOGRAPHY

The site is located east of Townline Road, west of Old Northport Road, north of Jericho Turnpike and south of the Long Island Railroad in the Town of Smithtown, Suffolk County, New York. The site is approximately three miles south of the Long Island Sound

and Sunken Meadow Creek is approximately 2.4 miles to the northeast (Ref.18) .

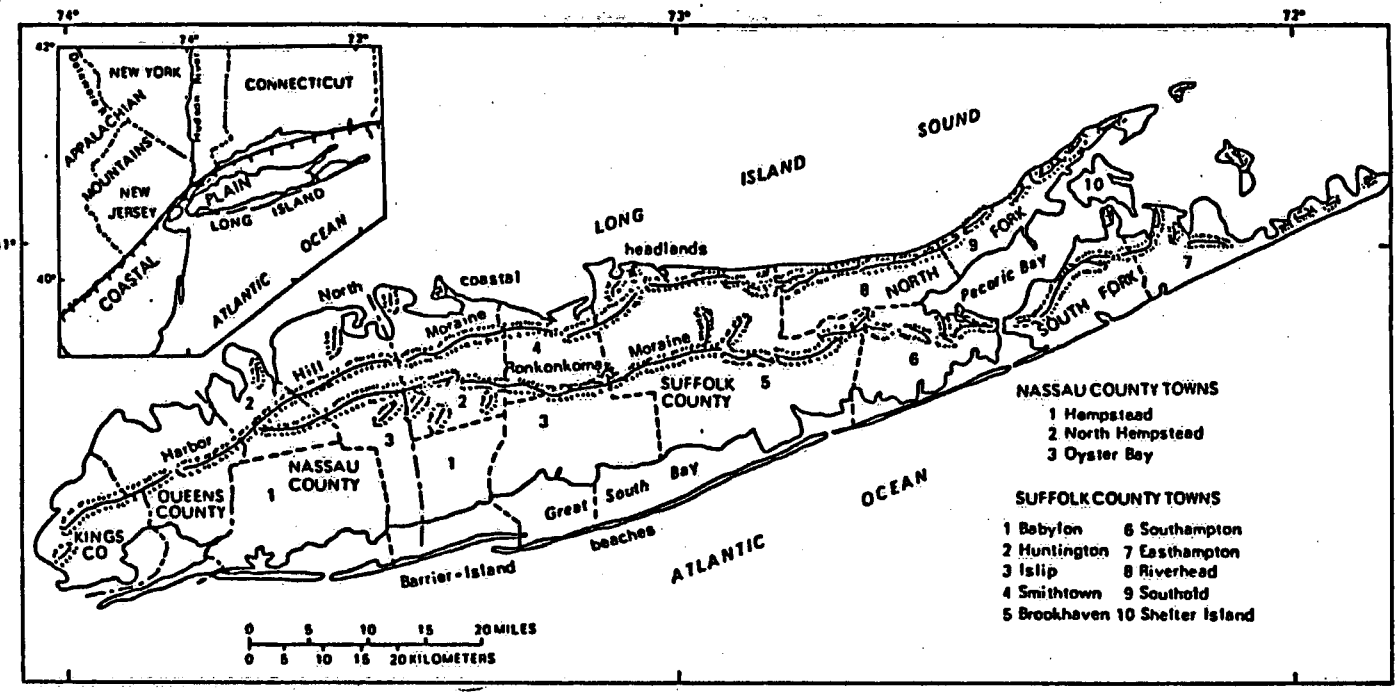
The site is fairly level with a 20 foot change in elevation from the north west corner of the site to the north west corner of the top of the excavation pit (930 feet) with the elevation decreasing towards the south west (Plate A). The pit is located in the south east section of the site and the bottom is approximately 27 feet below grade. A berm rises about 32 feet above the rim of the pit immediately east of the excavation. The surrounding area is approximately level with most of the site. The southeast section of the site is at a lower elevation than the areas immediately to the east (Old Northport Road), to the north, and to the northwest (Townline Road) and could receive surface runoff from these areas. The site is unpaved sand and gravel and because precipitation percolates rapidly into these highly permeable materials, overland flow would be negligible.

4.3 GEOLOGY

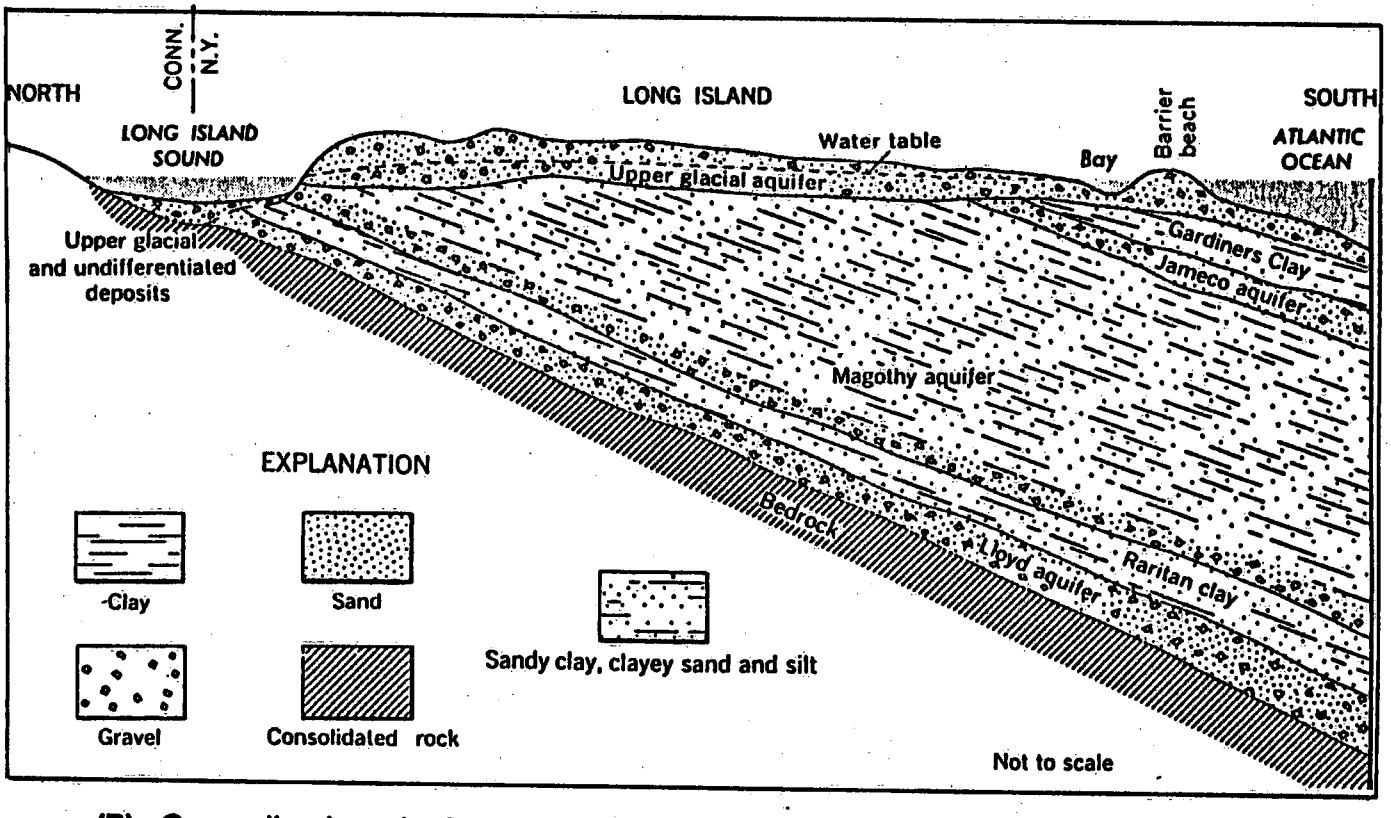
The S P Materials site is located in Suffolk County, Long Island, New York in the Atlantic Coastal Plain physiographic province. Long Island is bounded on the north by Long Island Sound, on the east and south by the Atlantic Ocean, and on the west by New York Bay and the East River. The area of the site is underlain by Precambrian crystalline igneous and metamorphic bedrock which in turn is overlain by Cretaceous unconsolidated sediments of clay, silt, sand, and gravel. These sediments are overlain by glacial till, outwash deposits and lacustrine and marine glacial sediments of the Wisconsin glacial stage of the Pleistocene Epoch. Recent deposits overlay the Pleistocene but are not very thick in most areas (Figure 4.2).

4.3.1 Bedrock

According to published information about the area, the bedrock in the vicinity of the site consists of Precambrian crystalline igneous and metamorphic granite, diorite, gneiss, and muscovite-biotite schist (Ref. 19). A weathered zone, immediately above the surface of the bedrock, is 5 to 100 feet thick and composed of red, gray, yellow, white, green, or mottled colored clay or sandy clay with rock and mineral fragments. The bedrock surface is a gently inclined peneplain that strikes east-northeast and slopes southeast to a depth of 400 feet (at Lloyd Neck) to 2000 feet below sea level (in south-



(A) Location of the Harbor Hill and Ronkonkoma terminal moraines.



(B) Generalized geologic section showing the relative positions of the Long Island aquifers.

FIGURE 4.2
LONG ISLAND
REGIONAL GEOLOGY

central Suffolk County) at about 65 feet per mile (Refs. 20, 21). There are no bedrock outcrops at or in the vicinity of the site. None of the monitoring wells were installed in bedrock and consequently no bedrock cores were available for visual inspection and characterization.

4.3.2 Unconsolidated Deposits

A sequence of Cretaceous unconsolidated fluvial and deltaic deposits lie unconformably on the Precambrian crystalline igneous and metamorphic bedrock throughout Long Island (Figure 4.2). These sediments can be characterized by three depositional periods each separated by periods of non-deposition and/or erosion. The Raritan Formation, which may have been deposited in an environment dominated by streams, unconformably overlies the bedrock surface. It is divided into two members, the Lloyd Sand Member and an overlying conformable clay member. The Lloyd Sand Member has an approximate maximum thickness of 500 feet and the overlying clay member has an approximate maximum thickness of 300 feet. It is relatively flat and dips gradually to the southeast. The Lloyd Sand Member of the Raritan Formation consists of yellow, gray, and white fine to coarse quartzose sand and gravel commonly found in a red clayey matrix. Lenses and layers of clay and silty clay are found throughout the Lloyd member as are thin layers of lignite and iron concretions. In places the sand member grades into the overlying clay member.

The Raritan Clay Member is characterized by gray, red, white and variegated clay and silty clay. It contains lenses and layers of sand with some gravel. Layers of lignite and pyrite are commonly found. An unconformity lies between the fine grained clay member of the Raritan Formation and the overlying coarser grained Magothy Formation. The Magothy Formation was also deposited in an environment dominated by streams. It has an approximate maximum thickness of 1,100 feet and consists of gray, white, red, brown, and yellow fine to medium sand, clayey sand, coarse sand, sandy clay, clay, and gravel. It commonly contains layers of lignite and pyrite and iron concretions. There are no known onshore Tertiary deposits in this area.

Pleistocene deposits unconformably overlie the glacially scoured and eroded surface of the Cretaceous sediments. The upper Pleistocene deposits have an approximate maximum thickness of 600 feet. The deposits consist of till composed of grayish green

clay, gray, brown and yellow sand, gravel and boulders that form two terminal moraines (Harbor Hill and Ronkonkoma) (Figure 4.2); outwash deposits that consist of gray, brown and yellow quartzose sand, fine to very coarse, and gravel, pebble to boulder sized; glaciolacustrine deposits and marine clay that consist of grayish green silt, clay and some and gravel layers. Recent deposits consist of beach sands, river and bay silts and mud (Refs. 20, 22).

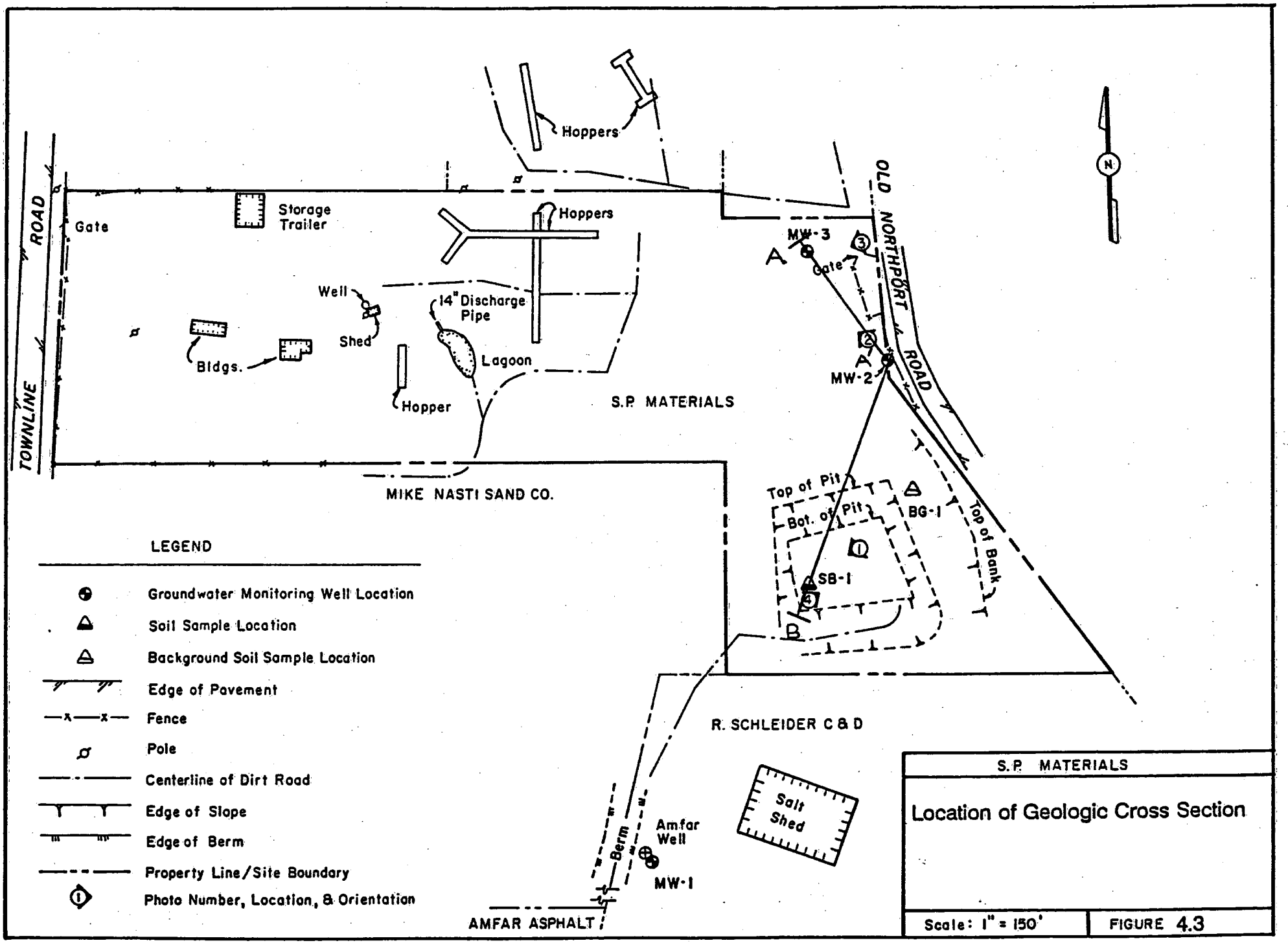
The site lies on glacial outwash deposits that formed between the Harbor Hill terminal moraine to the north and the Ronkonkoma terminal moraine to the south (Figure 4.2). Samples from well borings MW-1, MW-2 and MW-3 were sent to Empire Soils Investigations of Middleport, New York for a Geotechnical analysis. All samples were found to consist of fine to medium well sorted ($C_u < 4$) sand with traces of gravel and silt (Ref. 6). This is consistent with the unconsolidated outwash sediments associated with the upper Pleistocene. The location of a geologic cross-section across the site is shown in Figure 4.3. A geologic cross-section across the site is shown in Figure 4.4.

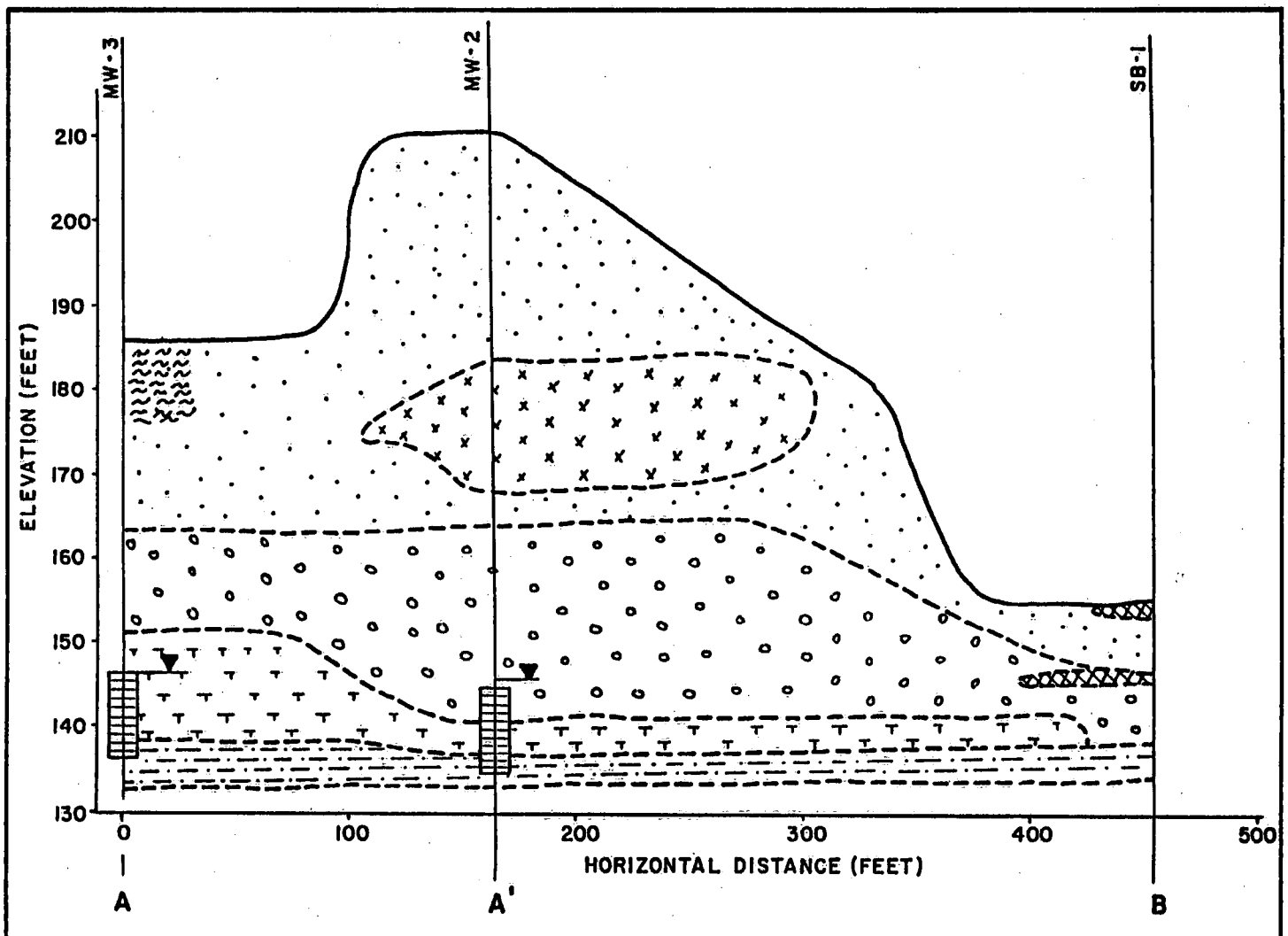
The soil in the area of the site is classified as Gravel Pits (Gp). Gravel Pits are open excavations made for the purpose of mining sand and gravel. The pits may range from 8 to 100 feet deep with nearly vertical sides and level bottoms (Ref. 23).

4.4 HYDROGEOLOGY

The Recent, Pleistocene, and Cretaceous unconsolidated deposits that overlie the Precambrian crystalline bedrock comprise the hydrogeologic framework of Long Island and serve as the sole source of fresh water for Nassau and Suffolk Counties (Ref. 24). The area in the vicinity of the site is underlain by the upper glacial aquifer which is comprised of glacial outwash deposits of the Pleistocene Epoch and the Magothy aquifer, Raritan clay member, and Lloyd aquifer of the Cretaceous Period. These unconsolidated sediments overlie Precambrian crystalline bedrock. Natural aquifer recharge is solely derived from precipitation. Engineered recharge basins in the area of the site are used to conserve storm water runoff and augment the supply of water to the underlying aquifers.

The upper glacial aquifer can be found from 0 to 50 feet below the land surface in the vicinity of the site. It has a maximum thickness of 600 feet and a saturated thickness


Hoppers
Storage Trailer
Gate
TOWNLINE ROAD
Hoppers
Well
14" Discharge Pipe
Shed
Bldgs.
Lagoon
Hopper
S.P. MATERIALS
MIKE NASTI SAND CO.
OLD NORTHPORT ROAD
MW-3
Gate
MW-2
Top of Pit
Bot. of Pit
BG-1
Top of Bank
SB-1
R. SCHLEIDER C & D
Salt Shed
Berm
Amfar Well
MW-1
AMFAR ASPHALT
N
LEGEND
Groundwater Monitoring Well Location
Soil Sample Location
Background Soil Sample Location
Edge of Pavement
Fence
Pole
Centerline of Dirt Road
Edge of Slope
Edge of Berm
Property Line/Site Boundary
Photo Number, Location, & Orientation
S.P. MATERIALS
Location of Geologic Cross Section
Scale: 1" = 150'
FIGURE 4.3



LEGEND

- Wood, plastic, fence wire debris
- Brown-tan-reddish medium-course sand, varying amounts of gravel
- Light tan fine-course sand and gravel
- Light brown-tan medium sand with some crossbedding
- Fine-course stratified sand
- Fine-medium sand and gravel, trace silt, with black film
- Brown fine-course sand, gravel, trace silt

- MW — Monitoring Well
- SB — Soil Boring
- Inferred geologic contact
- Water level
- Screened interval

SCALE:
Horizonal 1" = 75'
Vertical 1" = 20'

Geologic Cross Section Across Site

S.P. MATERIALS

FIGURE 4.4

of 100 feet. It consists of glacial outwash deposited between the Harbor Hill and Ronkonkoma terminal moraines. The upper glacial (or shallow) aquifer is unconfined and includes saturated fine to coarse sand and gravel which are locally hydraulically connected to the finer grained sand and gravel deposits of the upper section of the Magothy aquifer. The outwash deposits are moderately to highly permeable and have good to excellent infiltration characteristics. In the vicinity of the site groundwater from the upper glacial aquifer discharges into effluent streams which flow into Long Island Sound. The hydraulic conductivity of the aquifer has been estimated at 2,000 gallons/day/ft^2 (9.44 x 10^{-2} cm/sec).

The Magothy (or intermediate) aquifer underlies the upper glacial aquifer. It has a maximum thickness of 1,100 feet and a saturated thickness of about 600 feet. The fine to medium sand and clayey sands are poorly to moderately permeable and may be highly permeable in some areas. The aquifer is unconfined in the uppermost section and confined elsewhere. The hydraulic conductivity of the aquifer has been estimated at 400 gallons/day/ft^2 (1.89 x 10^{-2} cm/sec). Groundwater from the upper section of the aquifer discharges into effluent streams which flow into the Long Island Sound in the vicinity of the site. Groundwater also discharges into the Sound by upward leakage from the intermediate aquifer. The Magothy constitutes the principal aquifer for public drinking water supply.

The clay member of the Raritan formation underlies the Magothy Formation. It may be encountered from 70 to 1,500 feet below ground surface and has a maximum thickness of 300 feet. It is poorly to very poorly permeable and acts as a confining layer for the underlying Lloyd aquifer.

The Lloyd aquifer may be encountered from 200 to 1,800 feet below ground surface and has a maximum thickness of 500 feet. It is poorly to moderately permeable and the water table is confined under artesian pressure.

The bedrock underlying the unconsolidated sediments may be encountered from 0 to 2,700 feet below ground surface. It is poorly permeable to impermeable and is the lower boundary of the groundwater reservoir. Some amounts of freshwater are obtainable from secondary porosity features such as joints and fractures.

Regional groundwater flow at the site is influenced by the presence of the Ronkonkoma moraine which acts as a groundwater divide. South of the moraine, regional groundwater flow is to the south, and north of the moraine flow is to the north (Figure 4.2). The SP Materials site lies to the north of the groundwater divide (Refs. 20, 21, 22, 25).

Groundwater flow direction at the site is towards the northeast and the potentiometric surface of the water table of the upper glacial aquifer underlying the site is approximately 8.5 to 63.4 feet below ground surface in the eastern section of the site (Figure 4.5). Because recovery was almost instantaneous, slug test data could not be collected. The hydraulic conductivities were therefore estimated.

The estimated hydraulic conductivities are within the range for unconsolidated silt, sandy silts, clayey sands and till (Ref. 26). This is consistent with the information presented in the boring logs.

4.5 OTHER DATA

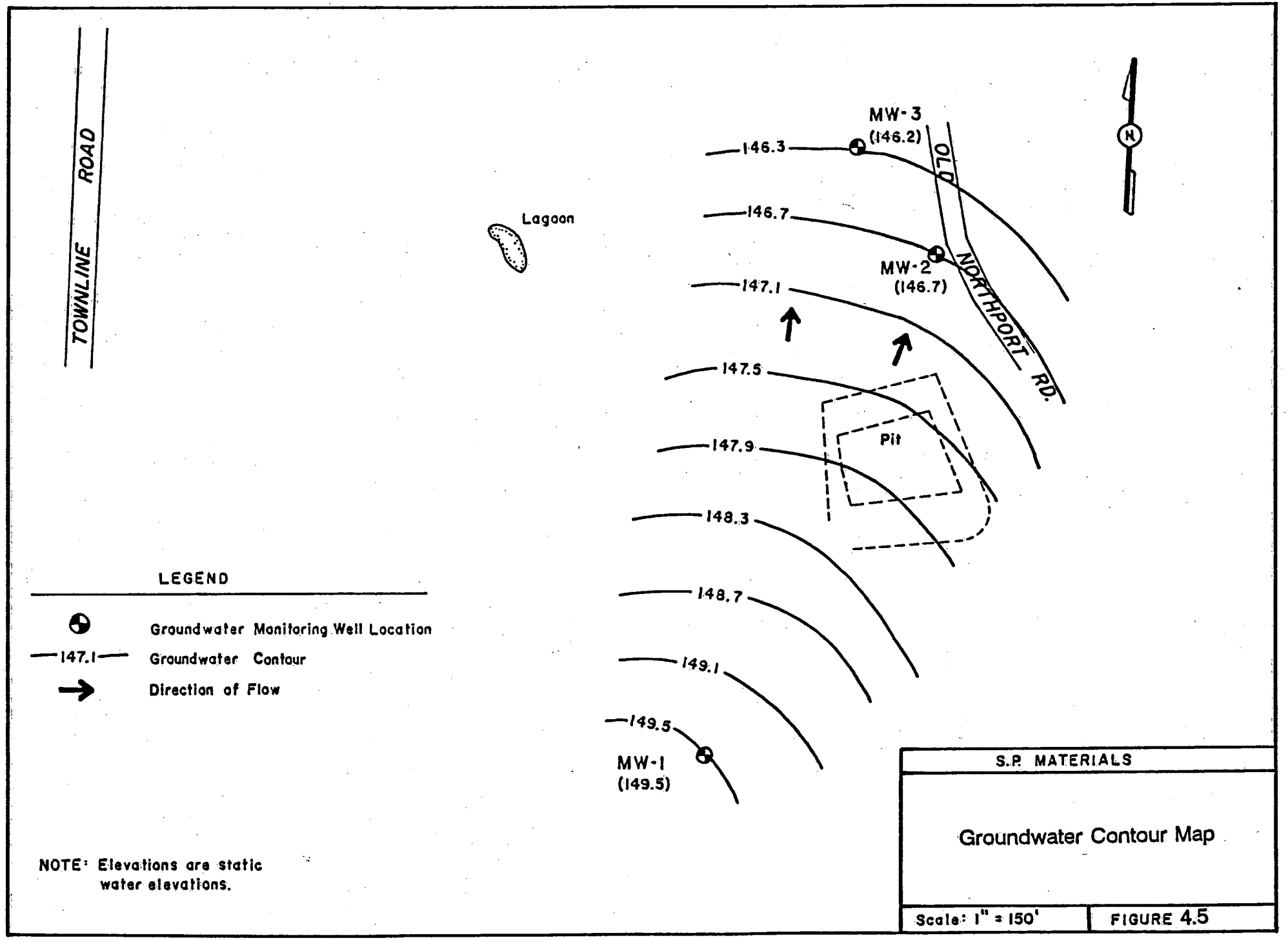
No previous sampling was performed at the site.

4.6 PHASE II RESULTS

4.6.1 Site Inspection

YEC inspected the SP Materials site on May 5, 1992 (Ref. 12). No air monitoring was performed at this site due to the breezy conditions and the dusty nature of the excavated material.

Two YEC inspectors visited the site to: collect site history data, check the proposed locations of the groundwater monitoring wells, screen well locations with magnetometer and Micro-Roentgen radiation monitor, locate, screen and stake soil sampling areas, make note of any drill rig access problems, check on underground (with magnetometer) and above ground obstacles, locate a source of water for drilling operation, designate a decontamination area, stake out soil gas sampling grid points, make note of health and safety concerns, and collect data for the preparation of a site map.


TOWNLINE ROAD
Lagoon
MW-3
(146.2)
146.3
OLD
146.7
MW-2
(146.7)
NORTHPORT RD.
147.1
147.5
Pit
147.9
148.3
148.7
149.1
149.5
MW-1
(149.5)
N
LEGEND
Groundwater Monitoring Well Location
147.1
Groundwater Contour
Direction of Flow
NOTE: Elevations are static water elevations.
S.P. MATERIALS
Groundwater Contour Map
Scale: 1" = 150'
FIGURE 4.5

4.6.2 Geophysics Data

A magnetometer survey was performed by YEC on site at all proposed well and soil boring locations. Small amounts of surface scrap metal were detected in the sand pit where the soil boring was located and the soil gas survey was to be performed.

4.6.3 Soil Gas Data

A soil gas survey was performed at the site on May 11 and 12, 1992, by Tetra K Testing. Twenty samples were collected at the bottom of the sand pit area at the southeast corner of the site (Figure 4.6 and Ref. 2). A known volume of soil air (i.e. soil gas) was collected from soil pores within a few feet of the soil surface. The gas was analyzed by a gas chromatograph which determined the concentrations of volatile organic compounds present. Based on Henry's Law the concentration of a volatile organic compound in soil air (soil gas) should be directly proportional to the volatile organic compound concentration in groundwater at equilibrium:

$$V_p = K_H C$$

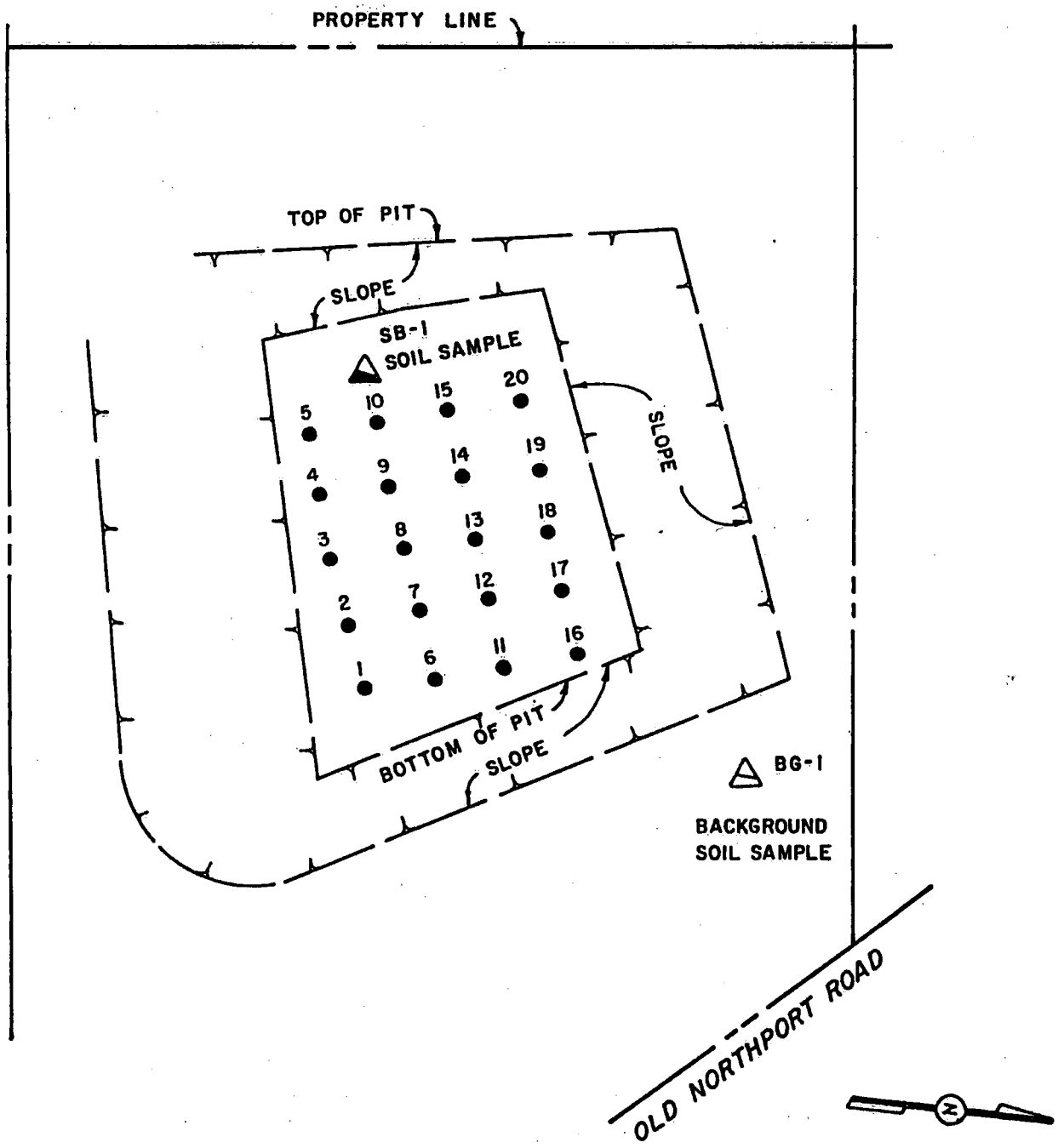
*V_p = Vapor pressure of the chemical

K_H = Henry's Law constant

C = Concentration of the chemical in water

* The vapor pressure of a chemical should be proportional to its concentration (Ref. 27).

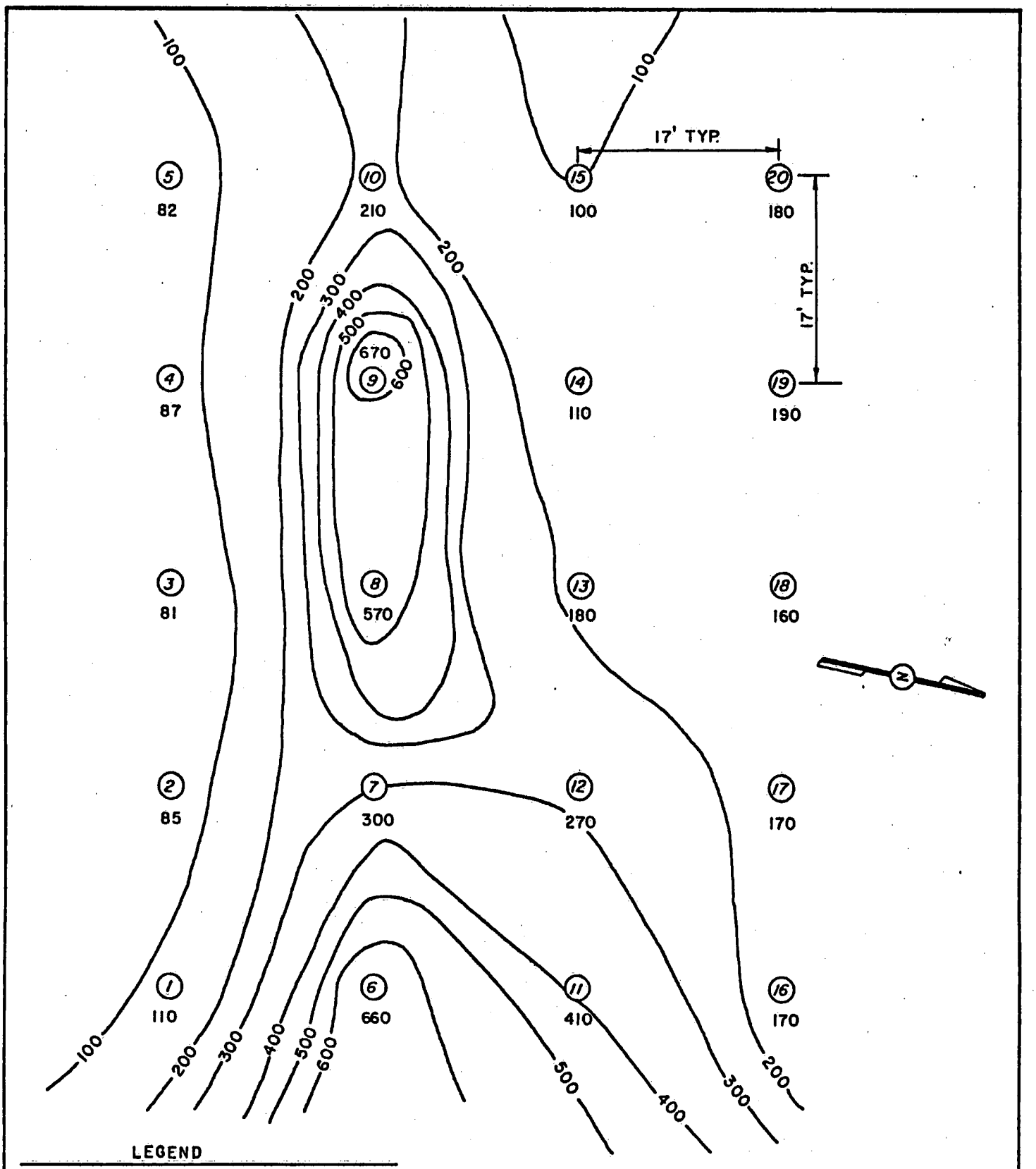
Tetrachloroethene (tetrachloroethylene), 1,1,1 trichloroethane (TCA), and trichloroethene (TCE) were detected in the soil gas samples collected from the site. The concentration of tetrachloroethene ranged from 81 to 671 ug/M^3 (0.01 to 0.1 ppm) (Figure 4.7). The highest concentration was detected at sample point SG-9. The concentration of TCA ranged from 0.001 (SG-6) to 0.05 ppm (SG-8) (Figure 4.8). TCE was detected at SG-7 at 0.02 ppm (Figure 4.9). The highest concentrations of these chemicals were detected in the area defined by sample points 6, 7, 8, and 9. This area may be a potential source of contaminant migration to groundwater. However, these compounds were undetected in the soil and groundwater sampling results. Tetrachloroethene, 1,1,1 trichloroethane, and trichloroethene are among the most commonly detected volatile



Soil Gas Survey Location Map

S. P. MATERIALS

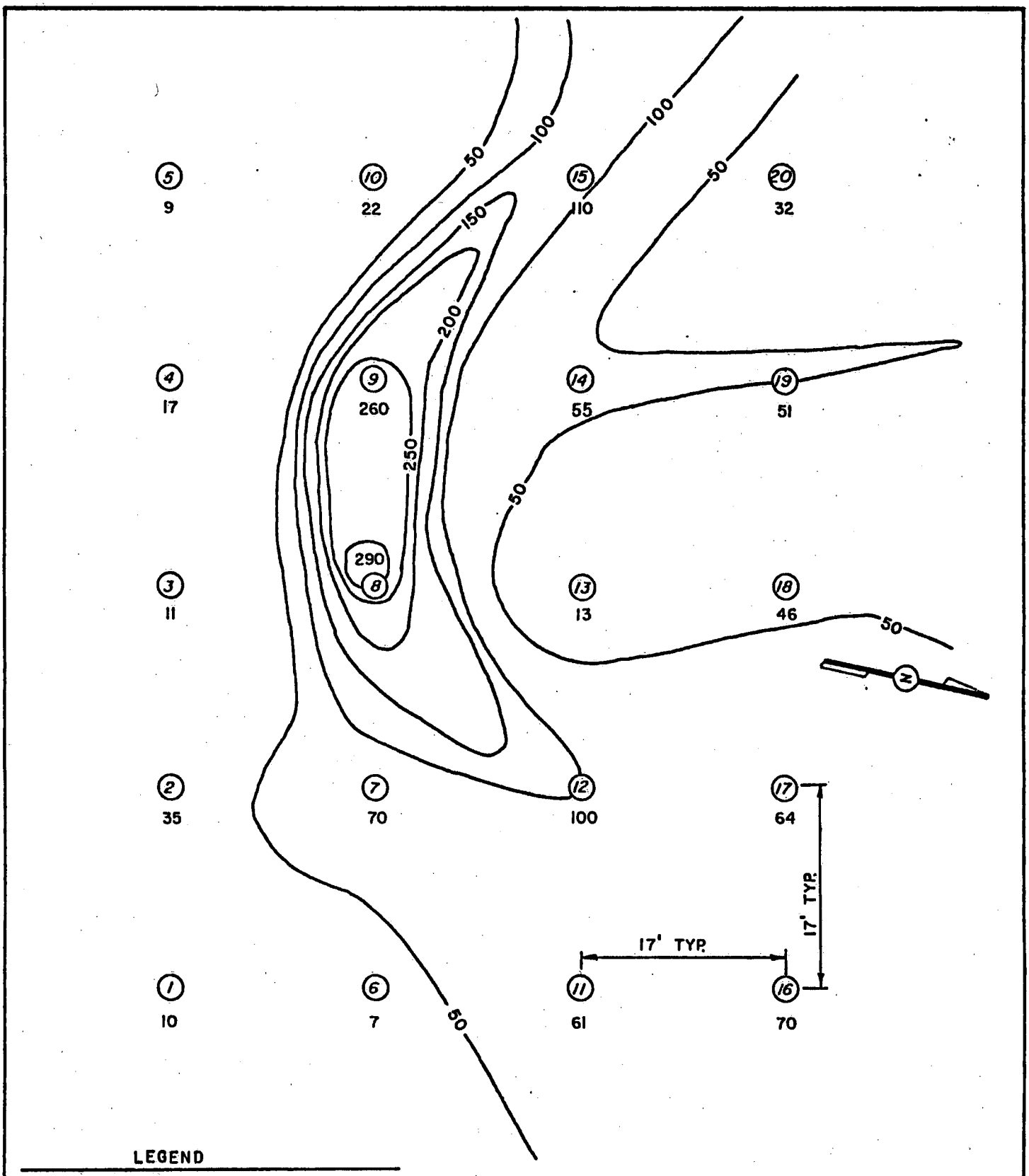
FIGURE 4.6



Tetrachloroethane Concentration Contours

S.P. MATERIALS

FIGURE 4.7



LEGEND

—50— ISOCON LINES

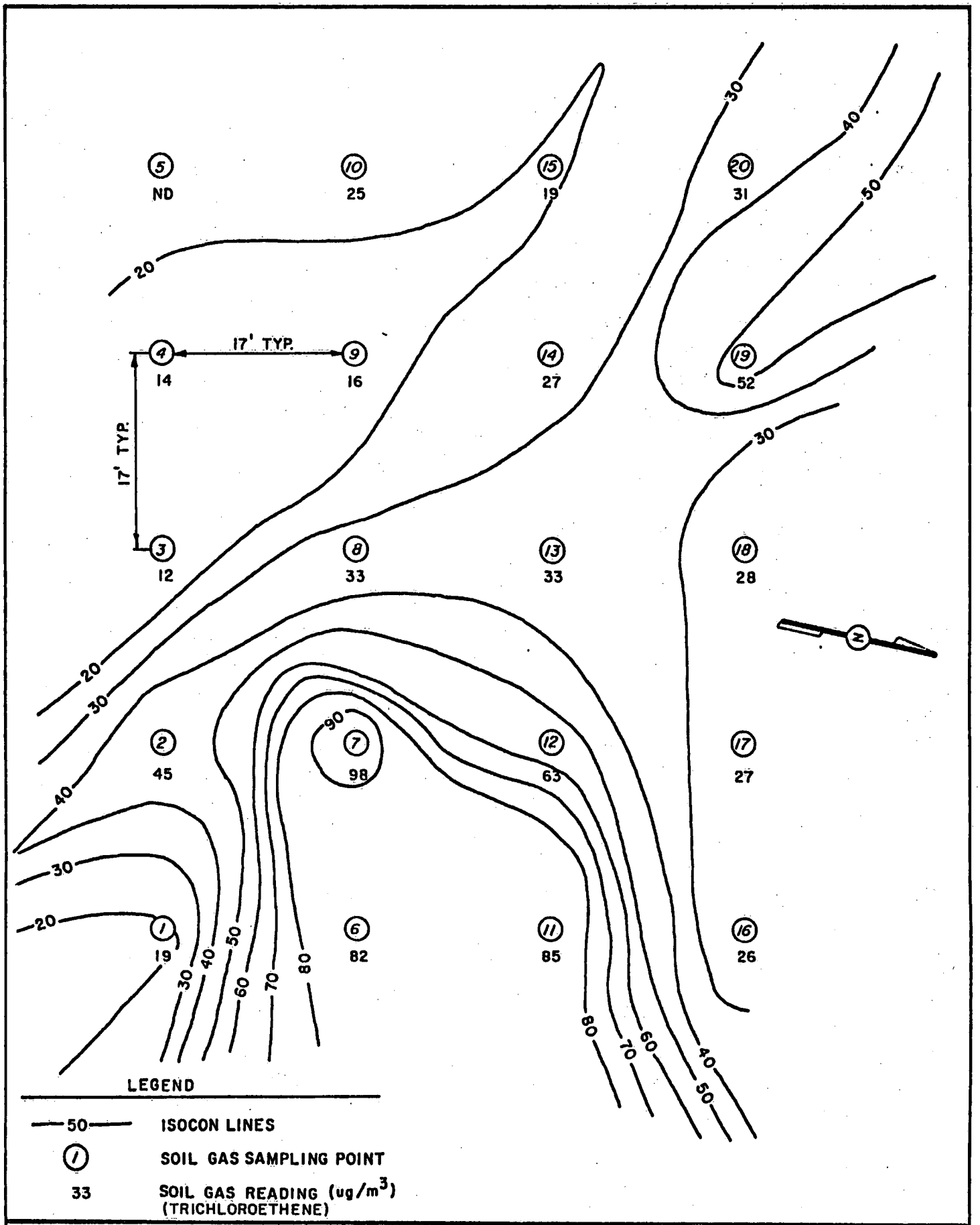
(1) SOIL GAS SAMPLING POINT

61 SOIL GAS READING (ug/m^3) (1,1,1 TRICHLOROETHANE)

1,1,1 Trichloroethane Concentration Contours

S.P. MATERIALS

FIGURE 4.8



Trichloroethene Concentration Contours

S.P. MATERIALS

FIGURE 4.9

organic compounds in the upper glacial aquifer. These compounds are usually found in most industrial and commercial solvents. They have low molecular weight and are considerably mobile (Ref. 28).

In a study conducted by the U.S.G.S. a definite correlation was noted between the concentration of TCA and TCE present in area wells and population density and land use. These compounds were detected more frequently as the population density increased, especially in Nassau and west-central Suffolk Counties. Concentrations were highest and most frequent in medium to high density residential, commercial, industrial, institutional, and transportational areas (Ref. 28). A Suffolk County Department of Health Services sampling of nine area wells also indicated the presence of these compounds in concentrations that were high and/or in contravention of standards/guidelines (Ref. 15). The NYS GA standard for each of these compounds is 5 ppb.

4.6.4 Soil Data

4.6.4.1 *Subsurface Soil Data.* One soil boring sample (SB-1) was collected at a depth of 10 feet bgs from the bottom of the excavation pit and analyzed for TAL metals and cyanide, volatile organic compounds, base neutral acids, and pesticides/PCBs (Tables 4.1, 4.2, Figure 4.10 and Refs. 4, 5). Typical ranges of native soil concentrations of various elements in natural soils (background concentrations) are used to evaluate metals concentrations in site soils (Ref. 27).

15 TAL metals were detected in the subsurface soil sample. All the concentrations fell within typical ranges, as reported in the literature.

Methylene chloride, acetone, benzo (g,h,i) perylene, phenanthrene, fluoranthene, pyrene, benzo (a) anthracene, chrysene, benzo (b) fluoranthene, benzo (k) fluoranthene, 4,4'-DDT, alpha-chlordane, and gamma-chlordane were detected in the subsurface soil sample. Methylene chloride, acetone, and benzo (g,h,i) perylene were detected in the laboratory blank samples. Their presence in the field sample is attributable to laboratory contamination. With the exception of alpha and gamma-chlordane (3.0 and 2.2 ug/Kg) all organic compounds were reported below detection limits. The two chlorinated hydrocarbon pesticides were detected just above the detection limit of 1.7 ug/Kg.

TABLE 4.1 SOIL DATA SUMMARY

SP MATERIALS SITE NYSDEC I.D. No. 152093

PARAMETER (METALS) (mg/Kg)	NATIVE SOIL CONCENTRATIONS TYPICAL RANGE (r)	BG-1 (Surface)	SB-1 (Subsurface)
Aluminum	10,000 - 300,000	622 *	781 *
Antimony	0.6 -10	ND	ND
Arsenic	1.0 - 40	0.19 B	0.94 B
Barium	100 - 3,500	2.6 B	5.5 B
Beryllium	0.1 - 40	ND	ND
Cadmium	0.01 - 7.0	ND	ND
Calcium	100 - 400,000	24.7 B	130 B
Chromium	5.0 - 3,000	1.5 B	5.6
Cobalt	1.0 - 40	ND	ND
Copper	2.0 - 100	1.4 B	2.6 B
Iron	7,000 - 550,000	1390 E *	2070 E *
Lead	2.0 - 200	0.29 B *	4.1 *
Magnesium	600 - 6,000	222 B	188 B
Manganese	100 - 4,000	36.2 E	53 E
Mercury	0.01 - 0.08	ND	ND
Nickel	5.0 - 1,000	ND	1.2 B
Potassium	400 - 30,000	655 B	370 B
Selenium	0.1 - 2.0	0.34 B	0.19 B
Silver	0.1 - 5.0	ND	ND
Sodium	750 - 7,500	ND	ND
Thallium	0.1 - 0.8 (q)	ND	ND
Vanadium	20 - 500	1.7 B	2.5 B
Zinc	10 - 300	3.5 B	3.8
Cyanide	-	ND	ND

(r) - Dragun, J., The Soil Chemistry of Hazardous Materials.
(q) - Bowman, Environmental Chemistry of the Elements.
B - Value is less than the contract required detection limit but greater than the instrument detection limit.
E - Values estimated due to interference.
N - Spiked sample recovery is not within control limits.
* - Duplicate analysis not within control limits.
W - Post-digestion spike out of control limits; sample absorbance is less than 50% of spike absorbance.
ND - Not detected at analytical detection limit; see Supporting Documentation for detection limit.
NR - Not run.
SA - Value determined by the method of standard addition.

TABLE 4.2 SOIL DATA SUMMARY

SP MATERIALS SITE NYSDEC I.D. No. 152093

PARAMETER (ORGANICS) (ug/Kg)	BG-1 (Surface)	SB-1 (Subsurface)
Methylene Chloride	2 B J	4 B J
Acetone	5 B J	11 B
Benzo (g,h,i) Perylene	49 B J	95 B J
Phenanthrene	U	26 J
Fluoranthene	U	40 J
Pyrene	U	29 J
Benzo (a) Anthracene	U	21 J
Chrysene	U	28 J
Benzo (b) Fluoranthene	U	26 J
Benzo (k) Fluoranthene	U	19 J
4,4'-DDT	U	3.5 J P
alpha-Chlordane	U	3.0
gamma-Chlordane	U	2.2

B - This flag is used when the analyte is found in the blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

U - Indicates a compound was analyzed for but not detected. Refer to Supporting Documentation for detection limit.

D - This flag is used to indicate that the value for the target analyte was calculated from a dilution.

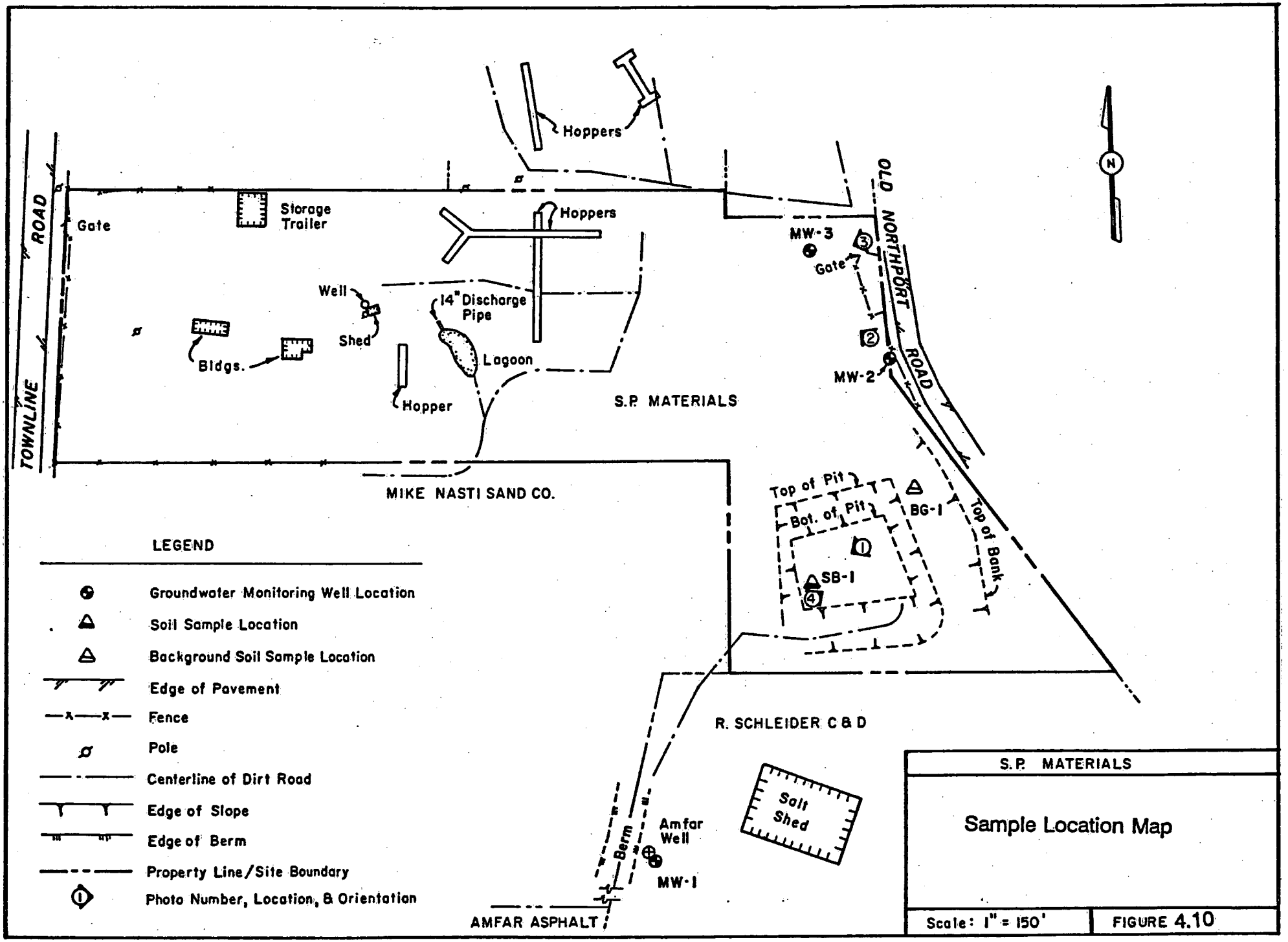
X - Identifies compounds with spectra that do not meet identification criteria in Exhibit (E) E-61.

J - An estimated value. Indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit and greater than zero. Also used to estimate a concentration for tentatively identified compounds.

E - This flag is used to indicate that the quantitation of the analyte is outside the curve and that dilution was required to properly quantitate.

Y - Flag used when a matrix spike compound is also confirmed present in the unspiked sample.

P - Flag is used for a pesticide/Aroclor target analyte when there is > 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported.


Hoppers
Storage Trailer
Gate
TOWNLINE ROAD
Hoppers
OLD NORTHPORT ROAD
MW-3
Gate
Well
14" Discharge Pipe
Shed
Bldgs.
Lagoon
MW-2
Hopper
S.P. MATERIALS
MIKE NASTI SAND CO.
Top of Pit
Bot. of Pit
BG-1
Top of Bank
SB-1
R. SCHLEIDER C & D
Salt Shed
Berm
Amfar Well
MW-1
AMFAR ASPHALT
N
LEGEND
Groundwater Monitoring Well Location
Soil Sample Location
Background Soil Sample Location
Edge of Pavement
Fence
Pole
Centerline of Dirt Road
Edge of Slope
Edge of Berm
Property Line/Site Boundary
Photo Number, Location, & Orientation
S.P. MATERIALS
Sample Location Map
Scale: 1" = 150'
FIGURE 4.10

4.6.4.2 *Surface Soil Data.* One background surface soil sample (BG-1) was collected from an area 20 feet east of the excavation pit and 40 west of the berm and analyzed for TAL metals and cyanide, volatile organic compounds, base neutral acids, and pesticides/PCBs (Tables 4.1, 4.2, Figure 4.10 and Refs. 4, 5).

Fourteen TAL metals were detected in the surface soil sample. All the concentrations fell within typical ranges, as reported in the literature (Ref. 27).

Methylene chloride, acetone, and benzo (g,h,i) perylene were detected in the surface soil sample and in the laboratory blank samples. Their presence in the field sample is due to laboratory contamination.

4.6.5 Groundwater Data

Three groundwater monitoring well samples were collected on June 30, 1992 and analyzed for TAL metals and cyanide, volatile organic compounds, base neutral acids, and pesticides/PCBs. Sample MW-1 was collected from an upgradient location while MW-2 and MW-3 are considered downgradient wells. MW-4 is a blind duplicate of MW-1. Reproduction of the blind duplicate is good. NYSDEC Class GA standards are used to evaluate groundwater quality (Tables 4.3, 4.4, Figure 4.10 and Refs. 4, 5).

Analytical results are not available for groundwater field blanks for BNA and Pesticide/PCBs. Bottles were received broken by Aquatec on July 1, 1992. It was decided not to redo the procedure as field personnel had already left the site and were in transit. Field blanks for TAL metals, cyanide, and VOA's were in tact.

Eighteen TAL metals were detected in the groundwater samples. Only iron, magnesium, manganese, and sodium were reported above the NYSDEC GA standards and/or guidance values. Both iron and magnesium were detected in the upgradient well MW-1 (6,870 ug/L, 58,400 ug/L) at a higher concentration than the downgradient wells MW-2 and MW-3. Manganese was detected in MW-2 (14,500 ug/L) and MW-3 (11,500 ug/L) over ten and eight times the concentration detected in the upgradient well (1,410 ug/L). Sodium was detected in the downgradient wells MW-2 (285,000 ug/L), MW-3 (73,600 ug/L) and the upgradient well MW-1 (63,600 ug/L). The concentration detected in MW-2 exceeded the concentration detected in the upgradient well MW-1 by more than a factor of four.

TABLE 4.3 GROUNDWATER DATA SUMMARY

SP MATERIALS NYSDEC I.D. No. 152093

PARAMETER METALS (ug/L)	NYS STANDARDS/ GUIDANCE VALUES FOR GROUNDWATER (a)	MW-1"	MW-2"	MW-3"	MW-4 (Blind)
Aluminum	NS	84.4 B	405	488	78.8 B
Antimony	3.0 GV	ND	ND	16.7 B	ND
Arsenic	25	4.3 B W	2.0 B W	2.8 B W	4.6 B W
Barium	1,000	91.2 B	74.7 B	69.8 B	97.0 B
Beryllium	3.0 GV	ND	ND	ND	ND
Cadmium	10	ND	ND	ND	ND
Calcium	NS	109,000	114,000	154,000	113,000
Chromium	50	ND	4.9 B	3.3 B	ND
Cobalt	NS	10.4 B	ND	ND	9.6 B
Copper	200	3.6 B	4.1 B	3.6 B	3.3 B
Iron	300 *	6,870	1,030	698	7,580
Lead	25	ND	1.1 B W	2.4 B W	1.3 B W
Magnesium	35,000 GV	58,400	20,400	32,100	61,200
Manganese	300 *	1,410	14,500	11,500	1,480
Mercury	2.0	ND	ND	ND	ND
Nickel	700 (f)	7.0 B	ND	ND	ND
Potassium	NS	13,900	12,200	15,600	12,300
Selenium	10	1.3 B W N	ND	ND	ND
Silver	50	ND	ND	ND	ND
Sodium	20,000	63,600	285,000	73,600	66,600
Thallium	4.0 GV	ND	ND	2.1 B	2.0 B
Vanadium	NS	ND	ND	ND	ND
Zinc	300	4.6 B	8.9 B	9.4 B	4.3 B
Cyanide	100	ND	ND	ND	ND

(a) - NYS Ambient Water Quality Standards, TOGS 1.1.1., November 1991.
GV - Guidance value.
E - Value estimated due to interference.
W - Post digestion spike out of control limits; sample absorbance is less than 50% of spike absorbance.
SA - Value determined by the method of standard addition.
(f) - USEPA health-based criteria for Systemic Toxicants, May 1989.
* - Iron and manganese not to exceed 500 ug/L.
ND - Not detected at analytical detection limit; see Appendix G for detection limit.
NS - No standard.
B - The reported value is less than the contract detection limit (CDL) but greater than the instrument detection limit (IDL).
u - Upgradient well.
d - Downgradient well.
F - Filtered sample.

TABLE 4.4 GROUNDWATER DATA SUMMARY

SP MATERIALS NYSDEC I.D. No. 152093

PARAMETER ORGANICS (ug/L)	NYS STANDARDS/ GUIDANCE VALUES FOR GROUNDWATER (a)	MW-1[u]	MW-2[d]	MW-3[d]	MW-4 (Blind)
Acetone	50	75	ND	ND	ND
Diethylphthalate	50 GV	ND	0.6 J	ND	ND
Di-n-butylphthalate	50	ND	0.8 J	ND	ND
Bis(2eth.)phthalate	50	ND	1 B J	2 B J	1 B J

(a) - NYS Ambient Water Quality Standards, TOGS 1.1.1., November 1991.

ND - Indicates a compound was analyzed for but not detected. Refer to Supporting Documentation for detection limit.

D - This flag is used to indicate that the value for the target analyte was calculated from a dilution.

X - Identifies compounds with spectra that do not meet identification criteria in Exhibit E-61.

J - An estimated value. Indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit and greater than zero. Also used to estimate a concentration for tentatively identified compounds.

B - This flag is used when the analyte is found in the blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

E - This flag is used to indicate that the quantitation of the analyte is outside the curve and that dilution was required to properly quantitate.

Y - Flag used when a matrix spike compound is also confirmed present in the unspiked sample.

u - Upgradient well.

d - Downgradient well.

Acetone was the only organic compound detected in the groundwater that exceeded NYSDEC GA standards and/or guidance values. It was detected in the upgradient well (75 ug/L) and may not be attributable to the site.

4.7 CONCLUSIONS

4.7.1 Soil

4.7.1.1 *Subsurface Soil.*

No TAL metals were detected outside the typical range of elements for soils in the subsurface soil sample SB-1. Two chlorinated hydrocarbon pesticides, alpha and gamma chlordane were reported just outside the detection limit. Chlordane is used as an insecticide and fumigant. It is toxic by ingestion, inhalation, and skin absorption. It is not easily broken down and therefore persists in soil. It is mobile and contamination of groundwater and/or surface water is possible. However, it was not detected in the groundwater samples. It is harmful to aquatic life in low concentrations (0.5 ppm) (Refs. 29, 30, 31).

4.7.1.2 *Surface Soil.*

No TAL metals were detected outside the typical range of elements for soils in the surface soil sample BG-1. No organic compounds were reported above the detection limit.

4.7.2 Groundwater

Of the four TAL metals that contravened the NYSDEC GA standards and/or guidance values, only manganese and sodium were detected at greater concentrations in the downgradient wells. The high concentration of sodium reported for both downgradient wells may be due to runoff from Old Northport Road which is located just east of the wells. MW-2, which is closer to the road, had a higher concentration of sodium than did MW-3, which is located more than 80 feet west of the road. Manganese was detected in leachate samples collected from the East Northport Landfill which is located just west of the site. It has been reported that the leachate plume from the landfill moves in a

northeasterly direction (Ref. 16). The concentration detected in the upgradient well also exceeded the standards. Acetone exceeded the NYSDEC GA standard for this organic compound. It was detected in the upgradient well and may not be attributable to the site.

4.8 RECOMMENDATIONS

This investigation did not discover documented disposal of hazardous waste on the site as per 6 NYCRR part 371. It is therefore recommended that the SP Materials site be removed from the Inactive Hazardous Waste Registry.

REFERENCES CITED

1. YEC, Inc., 1992. Health and safety plan.
2. Tetra K Testing. 1992. Soil gas survey.
3. YEC, Inc., 1992. Sampling logs.
4. Aquatec, Inc., 1992. Analytical data package.
5. Data Validation Services, 1992. Data validation report.
6. Empire Soils, 1992. Grain size analysis.
7. Mining Permit Application and Reclamation Report, NYSDEC Department of Mines, 1/13/83 (Appendix D).
8. YEC, Inc., Phase I Hazardous Waste Site Investigation, SP Materials, September, 1989 (Appendix D).
9. Mining Permit Attachment, NYSDEC Department of Mines, 5/16/83 (Appendix D).
10. Permit for a Construction and Demolition Site, NYSDEC, 7/1/83 (Appendix D).
11. Letter to SP Materials, from NYSDEC Region I, 9/28/84, re: inspection reports (Appendix D).
12. YEC, Inc., 1992. Site inspection report.
13. Interoffice Memorandum, NYSDEC Region I, 11/21/89, re: SP Phase I report (Appendix D).
14. Dvirka and Bartilucci, RIFS Study Work Plan, East Northport Landfill, August 1988 (Appendix D).
15. Interoffice Memorandum, Town of Huntington, N.Y., 8/13/84, re: summary of SCDHS private well sampling (Appendix D).
16. YEC, Inc., Phase II Hazardous Waste Site Investigation, Amfar Asphalt Corp., October 1990 (Appendix D).
17. NYSDEC, Quarterly Status Report of Inactive Hazardous Waste Disposal Sites, April 1992 (Appendix D).

REFERENCES
(Continued)

18. USGS 7.5 minute Series (Topographic) Quadrangle, Greenlawn and Northport, New York, 1969.

19. Suter, R., et al., 1949. Mapping of Geologic Formations and Aquifers of Long Island, New York, USGS Bulletin GW-18, Albany, N.Y.

20. Smolensky, D.A., et al., 1989. Hydrologic Framework of Long Island, New York, USGS Hydrologic Investigations Atlas, Albany, N.Y.

21. Lubke, E.R., 1964. Hydrogeology of the Huntington - Smithtown Area, Suffolk County, New York, USGS Water-Supply Paper 1669-D., Washington D.C.

22. Mack, T., Maus, P.E. Direction of Contaminant Plumes in Ground Water of Long Island, New York, By Electromagnetic Terrain- Conductivity Surveys, USGS Water-Resources Investigations Report 86-4045.

23. Warner, J.W. et al., 1975. Soil Survey of Suffolk County, New York, United States Department of Agriculture, Soil Conservation Service, April 1975.

24. USEPA, 1983, 1984. Designation of 17 Sole Source Aquifers, USEPA 45 FR. 52621 (Appendix D).

25. Doriski, T.P., 1987. Potentiometric-Surface of the Water-Table, Magothy & Lloyd Aquifers on Long Island, New York, USGS Water-Resources Investigations Report 86-4189.

26. Fetter, C.W., 1988. *Applied Hydrogeology*, second ed., Merrill Publishing Co., Columbus Ohio.

27. Dragun, J., 1988. *The Soil Chemistry of Hazardous Materials*, Hazardous Materials Control Research Institute, Silver Spring, Maryland.

28. Eckhardt, A.V., et al. 1989. Relation Between Land Use and Ground-Water Quality In The Upper Glacial Aquifer In Nassau and Suffolk Counties, Long Island, New York, USGS Water-Resources Investigations Report 86-4142.

29. Lewis, R.S., Sr. and N.I.Sax, 1987. *Hawley's Condensed Chemical Dictionary*, eleventh ed. Van Nostrand Reinhold, New York, N.Y.

30. CHRS Data Sheets, Chlordane (Appendix D).

31. Bassow, H., 1983. *Land Pollution Chemistry: An Experimenters Source Book*, Hayden Book Company, Inc., Rochelle Park, N.J.

APPENDIX A

BORING LOGS AND WELL DIAGRAMS

Drilling Log

Project SP Materials Owner Stephen Pomaco

Location Kings Park, LI. W.O. Number Site # 152093

Well Number SB-1 Total Depth 10 Feet Diameter 2"

Surface Elevation 155.77' Water Level: Initial 7-8' BGS 24-hrs NA

Screen: Dia. NA Length NA Slot Size NA

Casing: Dia. NA Length NA Type NA

Drilling Company Delta Well / Pump Drilling Method Tri-Pod 2" Split Spoon

Driller Louk. / Mike P. Log By Cunningham / Mulla Date Drilled 6-22-92

Sketch Map

Notes
BGS - Below Ground Surface

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
1			1	0-2' (1-2-2-4) RCV = 1' Light tan med-crse. sand, trace gravel Recent Fill material HNV = 0 CGI = 0
2				
3			2	2-4' (10-15-15-20) RCV = .8' Brown fine-crse. Sand and gravel HNV=0
4				
5			3	4-6' (15-18-22-20) RCV = 1.5' Dry Light Brown fine to crse. Sand and gravel. No visual contamination. HNV = 0
6				
7			4	6-8' (4-12-16-22+) RCV = 1' Moist-Saturated fine-coarse sand and gravel ▽ 7-8' HNV=0
8				
9			5	8-10' (20-22-45-62) RCV = 2.0'
10				8-9.0' Light Brown sand-gravel (med.-coarse) (Saturated)
				8.5 Dark brown Sand-gravel (med-coarse Saturated)
				9-10' Light tan fine-coarse sand and gravel (Saturated)
				* Chemical Analyzed Sample Metals/CN/BNA/Pest/PCB/VOA

Drilling Log

Project SP Materials Owner Stephen Pomaco

Location Smithtown, L.I. W.O. Number Site # 152093

Well Number MW-1 Total Depth 20 Ft. Diameter 2 inch

Surface Elevation 158.00 Water Level: Initial 9.5' BGS 24-hrs. 8.5'

Screen: Dia. 2 inch Length 10 ft. Slot Size .010

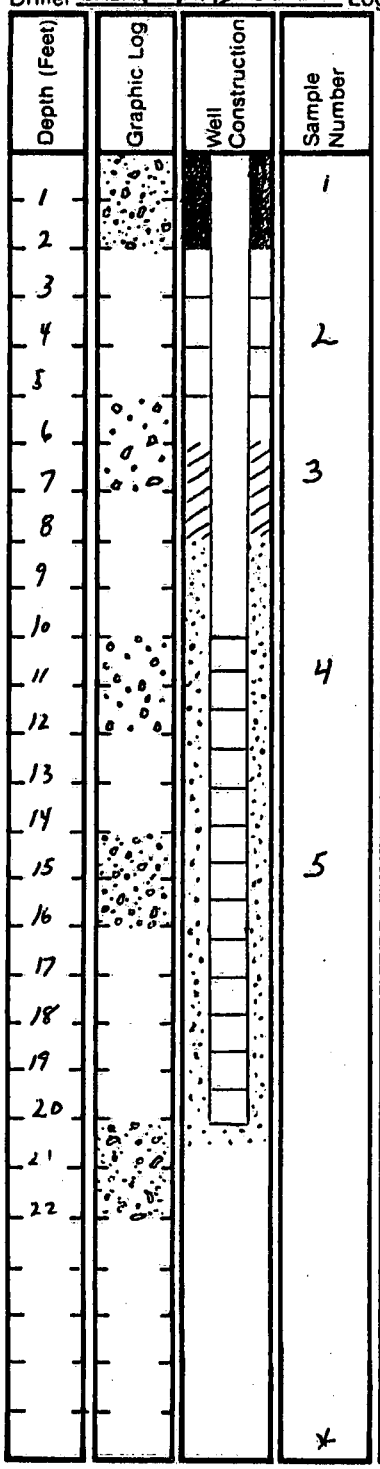
Casing: Dia. 2 inch Length 10 ft Type PVC

Drilling Company Delta Well / Pump Drilling Method HSA 4.25" I.D.

Driller Lou K. / Mike P. Log By Cunningham / Mecca Date Drilled 6-19-92

Sketch Map

Notes
BGS - Below Ground Surface



Description/Soil Classification
(Color, Texture, Structures)

0-2' (3-10-14-16) RCV = 6" Dry br. sand and gravel & brick fragments HNU = 0
Fill material

5-7 (3-6-8-16) RCV = 1.5' Black-brown med. sand (Fill) some gravel Moist
HNU = 0

10-12 (6-7-7-8) RCV = 1.3' 10'-10.65' Brown, med. sand (fill) CGE = 0
10.65-11.3 Med.-crs. sand, lt. br.-tan - Saturated HNU = 0
▽ 10.6' BGS - 10.9' BGS

15-17' (3-4-6-8) RCV = 1' Saturated brown-tan fine-crse. Sand,
Some gravel HNU = 0
CGE = 0

20-22' (2-5-6-8) RCV = 1.5' Saturated fine-crse. sand and gravel
HNU = 0

▽ 9.5' BGS.

HNU = 0, CGE = 0 also means no readings > Background

Drilling Log

Project SP Materials Owner Stephen Pomero

Location Commack, L.I. W.O. Number S.t#: 152093

Well Number MW-2 Total Depth 75 Feet Diameter 2 inch

Surface Elevation 210.07 Water Level: Initial 64 ft. 24-hrs. 63.43 ft BGS

Screen: Dia. 2 inch Length 10 ft. Slot Size .010

Casing: Dia. 2 inch Length 65 ft. Type PVC

Drilling Company Delta Well/Pump Drilling Method HSA 4.25 inch I.D. 6-16-92

Driller Lou/Mike P. Log By Cunningham/Mecca Date Drilled 6-17-92

Sketch Map

Notes
Water Levels Below Ground Surface (BGS)

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
3			1	0-2' (6-20-26-25) RCV = 18.5" Fine-Med. Sand and gravel (Dry) HNV=0 CGI=0
6			2	5-7' (1-3-5-6) RCV = 1.2' 5-5.6' Fine-Med. Sand and gravel (coarse)
9				5.6-6.2' Med. to Crs. Sand (Dry X reddish color) HNV=0 CGI=0
12			3	10-12' (5-6-7-7) RCV = 18" 10'-10'5" (Dark fine to med. sand, some gravel Dry
15				10'5"-11'6" Light Brown fine-med. Sand (Slightly moist) trace silt HNV=0
18			4	15-17' (5-6-7-7) RCV = .9' Light Brown - tan Moist crs sand, some gravel HNV=0 CGI=0
21			5	20-22' (2-6-8-9) RCV = 1' 0-2" Dry Fine-med. sand, 2"-4" Fine-med sand
24				with black film, 4"-12" Dry Fine-med sand, gravel, trace silt HNV=0 CGI=0
27			6	25-27' (3-4-8-9) RCV = 18", 0-2" Moist fine-med sand w/Black film, 2"-18"
30				Moist, Lt. brown-tan med-crse sand
33			7	30-32' (2-4-8-12) RCV = 1.2' Dry Lt. Br-tan med-crse Sand and gravel CGI=0 HNV=0
36			8	35-37' (4-8-12-15) RCV = 1.3', 0-14", Light tan fine-crse Sand-Dry) Crossbedding
39				14"-16" Light grey med. Sand, 16"-18" Same as 0-14" HNV=0 CGI=0
42			9	40-42' (3-4-8-6) RCV = 14" (1.16'), 0-12" Lt. tan-br. med. Sand-Dry, 12"-14"
45				Dry, dark, grey-br. med. Sand HNV=0 CGI=0
48			10	45-47' (5-4-6-6) RCV = 12"-14" Slightly moist Lt. tan-br. med. Sand HNV=0
51			11	50-52' (4-16-22-26) RCV = 1.4' Light tan-brown Med. Sand (Dry) HNV=0
54			12	55-57' (6-2-26-28) RCV = 1' Light br-tan med. sand, Compact, Slightly Moist HNV=0
57			13	60-62' (4-14-19-22) RCV = 1.5' Dry Lt. Br-tan med. Sand HNV=0 CGI=0
60			14	65-67' (4-18-16-20) RCV = 1.2' Moist-Saturated Lt. Br-tan med. Sand HNV=0 CGI=0
63				$T_{W/L}$ = 66'
66			15	70-72' (3-10-15-30) RCV = 2' 70-71' med-crse sand 71'-72' fine sand Some stratification in Sand
69				HNV=0 CGI=0
72				Water Level = 64' BGS
75			16	72'-74' (1-2-2.5) RCV = 2' Lt. Brown-tan med. Sand - Saturated
78				
			*	HNV=0, CGI=0 also means no readings > Background

Drilling Log

Project SP Materials Owner Stephen Pomero

Location Commack, L.I. W.O. Number S.6th 152093

Well Number MW-3 Total Depth ≠ 50 FEET Diameter 2 inch

Surface Elevation 186.17 Water Level: Initial 40 ft BGS 24-hrs. 40' BGS

Screen: Dia. 2" inch Length 10 feet Slot Size .010

Casing: Dia. 2" inch Length 40 feet Type PVC

Drilling Company Delta Well / Pump Drilling Method HSA 4.25" I.D.

Driller Lou K. / Mike P Log By Cunningham / Mecca Date Drilled 6-18-92

Sketch Map

Notes
BGS - Below Ground Surface

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
2			1	0-2' RCV=1.3' Br. med-crse sand and gravel (moist)
4				Hitting concrete at 3 ft., wire (fence, aluminum) HNU=0
6			2	5-7' (4-7-6-6) RCV = .8' dk. brown med. sand and gravel (moist) HNU=0 CGI=0
8			3	10-12' (5-10-20-15) RCV = 1.0' Brown sand and gravel (pieces of wood & plastic HNU = 3
10				
12			4	15-17' (5-15-17-6) RCV = .7' Brown med.-crse sand and gravel (Cont)
14			5	20-22' (5-8-12-12) RCV = 1.0' Tan med. sand (Bedded) HNU=0 CGI=0
16			6	25-27' (4-5-6-18) RCV = 1.2' Virgin sand (Tan med. sand) (Bedded) HNU=0
18			7	30-32' (4-8-18-20) RCV = 1.3' Same as 25-27'
20			8	35-37' (3-5-7-15) RCV = 1.2' Moist Med.-Crse Sand, some gravel
22				Some bedding
24			9	40-42' (3-6-10-11) Crs. Sand, some gravel Wet-saturated below 41'
26			10	45-47' (7-16-8-14) Saturated tan-brown-reddish med-crse. sand
28				and trace gravel
30				Water level ≅ 40' BGS
32			11	50-52' Med. crse. sand - trace gravel
34				
36				
38				
46				
42				
44				
46				
48				
50				
52				
			*	HNU=0, CGI=0 also means no reading > Background

APPENDIX B

WELL DEVELOPMENT/PURGING LOGS

YEC, Inc. Well Development/Purging Log

Site name & number: SP Materials Well #: MW-1

well casing and screen inner diameter (i.d.) in inches = 2"

G = # of gallons/foot of water in well = 0.17

To determine G:

well i.d.	1"	2"	3"	4"	5"	6"	8"
gals/ft	0.04	0.17	0.38	0.66	1.04	1.50	2.60

L1 = total casing and screen length (feet) = 20'

L2 = static water level ~~below top of casing~~ BGS (feet) = 8.5'

WV = one well volume (gallons) = 1.955

WV = G(L1 – L2) = .17 (20'-8.5') = 1.955 gallons

BGS - Below Ground Surface

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)									
WV's	6	12	18	24	30	36	43	45		
pH	7.19	7.20	7.30	7.32	7.35	7.32	7.30	7.32		
Spec. cond.	1350	1332	1305	1290	1272	1220	1230	1206		
Temperature	12.3	12.2	12.2	12.2	12.2	12.2	12.2	12.2		
turbidity (ntu's)	>100	46	22	40	19	34	60	28		

METHODS/COMMENTS:

23 well volumes pumped from well at different depths in the screened interval.

personnel present: MARK MECCA / BOB Cunningham date: 6-22-92

YEC, Inc. Well Development/Purging Log

Site name & number: SP MATERIALS Well #: MW-2

well casing and screen inner diameter (i.d.) in inches = 2"

G = # of gallons/foot of water in well = .17

To determine G:

well i.d.	1"	2"	3"	4"	5"	6"	8"
gals/ft	0.04	0.17	0.38	0.66	1.04	1.50	2.60

L1 = total casing and screen length (feet) = 75.0

L2 = static water level below ~~top of casing~~ BGS (feet) = 63.43

WV = one well volume (gallons) = 1.96 gallons

WV = G(L1 – L2) = .17(11.57) = 1.96 gallons

BGS – Below Ground Surface

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)									
	3gal	12gal	21	27	34	40	43	46		
WV's										
pH	7.54	7.28	7.4	7.27	7.30	7.35	7.38	7.36		
Spec. cond.	975	2200	2300	2860	2840	2680	2700	2900		
Temperature	17.3	18.1	17.4	17.7	16.8	16.3	16.1	16.0		
turbidity (ntu's)	>200	-	-	-	11	-	36	10		

METHODS/COMMENTS:

* 23.5 Well volumes pumped from well

personnel present: MARK Mella/Bob Cunningham date: 6/18/92

YEC, Inc. Well Development/Purging Log

Site name & number: SP MATERIALS Well #: 6-22-92 / MW-3

well casing and screen inner diameter (i.d.) in inches = 2"

G = # of gallons/foot of water in well = 0.17

To determine G:

well i.d.	1"	2"	3"	4"	5"	6"	8"
gals/ft	0.04	0.17	0.38	0.66	1.04	1.50	2.60

L1 = total casing and screen length (feet) = 50.00'

L2 = static water level below top of ~~casing~~ ground surface (feet) = 40.00'

WV = one well volume (gallons) = 1.7 gal

WV = G(L1 – L2) = .17(10') = 1.7 gallons

BGS (Below Ground Surface)

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)									
	6	12	15	21	27	33	39			
WV's										
pH	7.5	7.1	7.1	7.5	7.2		7.3			
Spec. cond.	CP 1032	CP 950 H 1340	CP 1040	1100	1080	GA	CP 1040 H 1210			
Temperature	12.3	12.5	12.1	12.6	12.3		12.4			
turbidity (ntu's)	–	–	10	26	11	29	18			
Depth in Screened Interval.	42'	42'	42'	45'	49'	49'	49'			

METHODS/COMMENTS:

*23 Well Volumes pumped from well

personnel present: Mark Mecca, Bob C. date: 6-22-92

APPENDIX C

DATA USABILITY SUMMARY

Data Validation Services

Cobble Creek Road P. O. Box 208
North Creek, N. Y. 12853
Phone 518-251-4429

TO: YEC, Inc.

FROM: Judy Harry, Data Validation Services J. Harry

DATE: 10-12-92

RE: Validation report for SP Materials Site

Aquatec, Inc. Case Nos. 32083 and 32209
SDG Nos. 162421 and 163011

Review has been completed for the data package generated by aquatec, inc. pertaining to samples collected at the SP Materials Site. Four groundwater and two soil samples were analysed for TCL CLP parameters. Field and trip blanks were processed; matrix spikes/duplicates were analysed for the two matricies. Methodologies utilized were those of the 12/91 NYSDEC ASP.

In summary, sample reported values were substantiated by the raw data, with exceptions as noted below. Any noncompliancies with protocol are discussed in the sections below and indicated on the compliancy chart. No specific internal chain-of-custody documentation was available for this project. The sample handling and preparation sections of the data package are very complete with all associated processing documentation. Technician/analyst/reviewer signatures or initials are present for all levels of handling.

The field blank associated with the aqueous samples was processed only for volatiles and metals due to shortage of submitted sample.

Recommended edits and qualification of sample reported results are as follows:

1. The BNA analysis of the aqueous samples shows detection of numerous polyalkoxy-propanols as Tentatively Identified Compounds (TICs). Although these compounds were not detected in the associated method blank, they should be considered extraction by-products, and rejected as sample components. There are TICs identified in the soil samples which are also present in their associated method blank. They are correctly anotated with a "B" to indicate such.

VOLATILE ANALYSES

Method blank, and instrumental tune criteria were met for sample processing. All aqueous and soil surrogate recoveries were within required ranges. The aqueous matrix spikes of MW-1 and the aqueous matrix spike blank produced acceptable recoveries and duplicate correlation. The soil matrix spikes of SB-1 and the soil matrix spike blank produced acceptable recoveries and duplicate correlation.

Initial and continuing calibration standards were within all required criteria, and internal standard areas and retention times were consistent. All quantitative values were reported with accuracy, target analyte spectra were good, and tentatively identified compound identifications were very well determined.

SEMIVOLATILE ANALYSES

Holding times and instrumental tune criteria were met for sample processing. The aqueous and soil surrogate recoveries for the samples were acceptable. Soil sample SB-1 recovered 2,4,6-tribromophenol at the lowest allowable recovery of 10%. The matrix spike duplicates of this sample exhibited the same depressed recovery for this compound. Sample reported results are not affected.

The soil sample matrix spikes of SB-1 and the matrix spike blank produced acceptable recoveries and duplicate correlation. The aqueous matrix spikes of sample MW-1 produced elevated recoveries for 4-nitrophenol (at 112% and 120%; above the 80% limit), and pentachlorophenol (at 188% and 186%; above the limit of 103%). The outlying pentachlorophenol recoveries in the matrix spike is likely related to the outlying response for that compound in the associated continuing calibration standard (discussed below). The aqueous matrix spike blank, which was not analysed during the same sequence, produced recoveries which were all within limits.

Please see the above discussion regarding TICs which are resultant of the extraction process. Initial and continuing calibration standards were within all required criteria for the soil analyses. However, the continuing calibration standard associated with samples MW-1, MW-2, MW-3, MW-4, and the matrix spikes of MW-1 showed outlying response for pentachlorophenol with a percent difference value of 47.9%, above the allowable limit of 40%. Although sample matrix spike recoveries were elevated, sample reported results are not affected by this noncompliancy. Internal standard areas and retention times were consistent. All quantitative values were reported with accuracy and target analyte spectra were good.

PESTICIDE/PCB ANALYSES

Holding times and method blank criteria were met for sample processing. Sample surrogate recoveries were all within recommended limits. One method blank had recoveries for surrogate standard DCB at 161% and 160%. Surrogate TCX recovered within recommended range for this blank.

Sample matrix spikes on aqueous sample MW-1 and soil sample SB-1 produced recoveries and precision values within the recommended ranges. Both matrix spike blanks were within required range. All required preparation and analytical system evaluations were reviewed and found acceptable and compliant with protocol requirements.

All sample reported results are substantitated by the raw data.

METALS/CN ANALYSES

All quality control criteria required by protocol were reviewed and found to be acceptable. All reported sample results and summary form values are supported by the raw data.

The aqueous matrix spike of MW-1 produced one outlier from the recommended range of 75 to 125%, with selenium at 60.7% The soil matrix spike of SB-1 produced no outliers. Duplicate correlation and serial dilution values of MW-1 were all within recommended limits. The serial dilution of the soil sample SB-1 produced values just exceeding ten

percent difference for iron and manganese (10.4 and 10.7%, respectively). Soil duplicate correlation (SB-1) indicated values exceeding the recommended limits for aluminum, iron, and lead by graphite furnace. Relative percent differences for these elements are 29.5%, 31.3%, and 33.7%, respectively; above the limit of 20%.

CONVENTIONALS

Total solids determinations for the soils were reviewed. Total dissolved solids, total suspended solids, and chemical oxygen demand data was reviewed. All conventional analyses were found acceptable for methodology, holding time, associated QC, and transcription.

APPENDIX D

PERTINENT FILES OR RECORDS

REFERENCE 7

16 PS 0134

85-19-2 (2/77)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BUREAU OF MINERAL RESOURCES

MINING PERMIT APPLICATION AND RECLAMATION REPORT

SECTION A

1. N.Y.S MINE FILE NO.

2. NAME OF APPLICANT OR PERMITTEE: S P MINERALS INC

3. TELEPHONE NO. (Include Area Code): 516) 266-1000

4. MAILING ADDRESS: 170 TOWNLINE RD KINGS PARK N.Y. 11754

5. COMMON NAME OF MINE: SAME

6. LOCATION OF MINE
County: SUFFOLK
Town: KINGS PARK
U.S.G.S. DESIGNATION
(a) NORTHPORT
(b) 7.5 Minutes
(c) 21.9 Inches Top
(d) 3.6 Inches Right

7. TYPE OF SUBMITTAL
☑ Original Application
☐ Renewal Application
☐ Renewal WITH Amendment Application
☐ Amendment Application
☐ Transfer Application
☐ Reclamation Report

SECTION B

8. PERMIT TERM:
Previous Term ☐ Annual ☐ Triennial
Coming Term ☐ Annual ☑ Triennial

9. STATUS OF OTHER N.Y.S. MINE FILE NUMBERS. LIST FILE NUMBERS UNDER APPROPRIATE HEADING.

Active	Inactive	Refused	Suspended	Revoked	Reclamation Bond Forfeited
10-2722					

10. Has any owner, partner, corporate officer or corporate director of your organization ever held any of these positions in another organization which has had a New York State mining permit SUSPENDED OR REVOKED or has had a New York State mined land reclamation bond FORFEITED? ☑ No ☐ Yes
If "Yes", identify the person(s)

11. COMMON OR COMMERCIAL NAME OF THE MINERAL TO BE MINED: BANKRUN

12. TYPE OF GEOLOGIC DEPOSIT: SAND

13. TYPE OF MINE
☐ Surface Consolidated
☑ Surface Unconsolidated
☐ Underground

14. ESTIMATED LIFE OF MINE: 3 Years

15. ESTIMATED NO. OF ACRES TO BE AFFECTED BY MINING DURING THE:
A. Coming Year 1 Acres
B. Remainder of Year 11/A Acres

16. HAS THE PROPOSED RECLAMATION PLAN BEEN DEVELOPED IN COOPERATION WITH ANY OF THE FOLLOWING:
☐ Department of Environmental Conservation
☐ County Soil and Water Conservation District
☐ Consultant (Identify)
☐ Soil Conservation Service
☐ Cooperative Extension Office
☐ Other (Identify)

SECTION C

17. NAME AND MAILING ADDRESS OF THE MINERAL OWNER: SAME

18. NAME AND MAILING ADDRESS OF THE SURFACE LANDOWNER: SAME

19. As the surface landowner of the property which is to be mined, I have been advised by the applicant of the contents of the reclamation plan.
SIGNATURE OF LANDOWNER: Ralph N. Tomasino of SP MINERALS INC
DATE: 1-13-83

SECTION D

20. What is the present zoning classification of the property to be mined? LIGHT INDUSTRY
21. Does the proposed land-use objective conform to officially adopted COUNTY and/or TOWN planning? ☐ Yes ☐ No If "No", explain in block 25.
22. Does local government have any reclamation standards which apply to this mine? ☐ No ☐ Yes If "Yes", explain below in block 25.
23. Is the applicant required to have a local mining permit? ☐ No ☐ Yes If "Yes", enter the Permit Identification No.
24. Is the applicant required to have a local mining reclamation bond? ☐ No ☐ Yes If "Yes", what is the (a) amount of the bond $
(b) name and address of the surety

25. COMMENTS RELATIVE TO QUESTIONS IN SECTION D

26. NAME AND MAILING ADDRESS OF LOCAL GOVERNMENT: TOWN OF SMITHTOWN
TELEPHONE NO. ( )

27. As the Chief Administrative Officer of the municipality having immediate jurisdiction over the proposed mine site, I have been advised by the applicant of the contents of the reclamation plan.
NAME, TITLE AND SIGNATURE OF CHIEF ADMINISTRATIVE OFFICER: IN PROCESS OF APPLYING FOR TOWN PERMIT
DATE

SECTION E

28. NO. OF ACRES
(A) Affected _____ AND (B) Reclaimed _____ DURING THIS REPORT PERIOD

29. ESTIMATED NO. OF ACRES TO BE AFFECTED DURING THE COMING YEAR
Acres

30. DESCRIBE RECLAMATION PERFORMED DURING THE REPORT PERIOD:

31. DESCRIBE ANY PROPOSED CHANGE IN THE RECLAMATION SCHEDULE:

32. DO YOU REQUEST A REDUCTION IN THE AMOUNT OF THE RECLAMATION BOND? ☐ No ☐ Yes
If "Yes", explain:

SECTION F

The Mined Land-Use Plan submitted with this application constitutes the applicant's proposal for mining and reclaiming the affected land described herein. Approval of the plan by the Department of Environmental Conservation is for the term of the permit. The applicant is responsible for submitting all plans, maps, forms, fees, bonds and reports as required by the Department. The permit is valid only for mining on land described in the plan and mining on unpermitted land is unlawful. Failure to adhere to the approved plan is cause for non-renewal, suspension or revocation of the permit. As a condition of the issuance of the permit, the applicant agrees to perform all work in accordance with the approved plan and any amendment thereto.

I hereby affirm under penalty of perjury that information provided on this form is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

33. NAME, TITLE AND SIGNATURE OF APPLICANT OR AUTHORIZED REPRESENTATIVE: Ralph N. Tomasino Jr.
DATE: 1/19/83

SECTION G

UTM COORDINATES:
UTMN
UTME

REMARKS:

SITE INSPECTION BY (Name and Date): R.O.L. Jan 1/25/83

PLAN REVIEW BY (Name and Date)

BY: DEPARTMENT REPRESENTATIVE (Title and Date)

☐ Acceptable
☐ Acceptable with conditions
☐ Unacceptable

PERMIT NO.	Date of Issue	Expiration Date	Bond Amount
			$

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

APPLICATION FOR USE OF A CONSTRUCTION AND DEMOLITION DEBRIS DISPOSAL SITE

SEE APPLICATION INSTRUCTIONS ON REVERSE SIDE

FOR STATE USE ONLY	
PROJECT NO.	DATE RECEIVED
DEPARTMENT ACTION ☐ Approved ☐ Disapproved	DATE

1. OWNER'S NAME	2. ADDRESS (Street, City, State, Zip Code)	3. Telephone No.
4. OPERATOR'S NAME	5. ADDRESS (Street, City, State, Zip Code)	6. Telephone No.
7. ON-SITE SUPERVISOR	8. ADDRESS (Street, City, State, Zip Code)	9. Telephone No.

10. PROJECT/FACILITY NAME

11. PROJECT STATUS ☐ Public ☐ Private ☐ Proposed ☐ Existing	12. COUNTY IN WHICH FACILITY IS LOCATED	13. ENVIRONMENTAL CONSERVATION REGION
14. OPERATING HOURS/DAY	15. ESTIMATED SITE LIFE Months	16. ESTIMATED DAILY VOLUME Cubic Yards

17. DESCRIBE SPECIFIC LOCATION OF SITE

RECEIVED
FEB 8 1983
N. Y. S. D. E. C.
REGULATORY AFFAIRS, REGION 1

18. LIST EACH WASTE COMPONENT TO BE DISPOSED

19. BRIEFLY DESCRIBE PROPOSED COMPACTION, COVER, SEEDING AND FINAL CLOSURE OF SITE

The final cover will consist of [illegible] will be graded and used as a stockpile area for sand and gravel operations.

20. CERTIFICATION:

I hereby affirm under penalty of perjury that information provided on this form and attached statements and exhibits is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

2-7-83
Date

[signature]
Signature and Title

47-19-6 (6/77)
Formerly SW-24

REGIONAL OFFICE COPY

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BUREAU OF MINERALS

ORGANIZATIONAL REPORT

10-83-0134

INSTRUCTIONS:

1. Two (2) copies of Form 85-15-1 shall be filed with the New York State Department of Environmental Conservation by every person acting as a principal or agent for another or independently engaged in mining or in the drilling for, production of, or underground storage of oil, gas or brine in the State of New York.
2. An updated copy of Form 85-15-1 shall be filed as specified above within ten (10) days of any change to the facts stated in the most recent report filed with the Department.
3. The form shall be completed by typewriter, or printed in black ink, and be signed by a responsible individual who has full and correct knowledge of the facts stated.

1. TYPE OF FILING (Check One)
☑ Original Filing ☐ Revised Report

2. TYPE OF ACTIVITY (Check One)
☑ Mining ☐ Oil, Gas or Brine

3. FULL NAME OF THE COMPANY, ORGANIZATION, INDIVIDUAL OR MUNICIPALITY
S. P Materials, Inc

4. TELEPHONE NO.
(516) 365 1100

5. MAILING ADDRESS (P.O. Box or Street Address, City, State, Zip Code)
171 Jerusalem Rd
Kings Park, NY 11754

RECEIVED
1983
N.Y.S.D.E.C.
REGION 1

6. NEW YORK STATE MAILING ADDRESS
same

7. TYPE OF ORGANIZATION (State whether Individual, Partnership, Company, Corporation, Governmental Agency, or Municipality)
Corp.

8. NAME, TITLE AND ADDRESS TO WHOM ALL CORRESPONDENCE SHOULD BE SENT
same

9. PRINCIPAL OFFICERS OR PARTNERS (Names, Titles and Addresses) (If an individual, go directly to Item 10)
Stephen D. Pimaro Sec 75 Kingsfield Rd. Kings Park, NY 11754

I hereby affirm under penalty of perjury that information provided on this form is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

10. NAME AND TITLE OF APPLICANT OR AUTHORIZED REPRESENTATIVE (Print or Type)
Stephen D. Pimaro Sec.

SIGNATURE
X Stephen D Pimaro Sec.

DATE
1-13-83

FOR DEPARTMENT USE ONLY

85-15-1 (1/77)

Short Environmental Assessment Form

Name of Applicant: J.P. Mihm, Inc.

Mine: _____

N.Y.S. Mine File No. _____

	Yes	No
A. General		
1) Is there any known public controversy or adverse public opinion associated with this proposed mining operation?	___	✓
2) Will any processing or size separation of minerals occur at the mine site in conjunction with the mining operation?	✓	___
3) Will the operation involve the use of any substance known to be toxic or hazardous?	___	✓
4) Will blasting occur on a regular basis as a part of your mining operation?	___	✓
5) Will the mining operation occur in an area which is thickly settled?	___	✓
6) Are there any local or federal zoning, mining excavation or other laws or ordinances that apply to your proposed mining operation?	✓	___
7) Have other agencies of government given or denied approval to the proposed operation?	___	✓
B. Impact on Land Use		
1) Will any rare, strategic or unique minerals be mined during this operation?	___	✓
2) Will the proposed mining and processing operations impact upon any site designated by a local government as a critical environmental area?	___	✓
3) Will the proposed operation be located within or next to an officially designated flood hazard zone or certified agricultural district?	___	✓
4) Will the proposed mining operation significantly affect the quantity or quality of existing open spaces?	___	✓

C. Impact on Water

1) Will the proposed operation result in erosion or sedimentation off the mine site? ___ ✓

2) Will the proposed mining and/or processing operation alter, disturb or create any streams, rivers, ponds, lakes, wetlands or other bodies of water on or adjacent to the mine site? ___ ✓

3) Will the proposed mining operation be located within five feet of an existing groundwater table? ___ ✓

4) Will the operation use more than 2 million gallons of ground or surface water? ___ ✓

D. Visual Impact

1) Will the proposed mining operation be visible from, adjacent to or within any publicly owned or operated park or recreation area? ___ ✓

2) Will the proposed mining and processing operations be visible from land travel corridors, scenic vistas, or population concentrations? ___ ✓

3) Will the proposed operation be visible from, next to or within any location listed or proposed for listing on the National Register for Historic Places? ___ ✓

4) Will any structures more than 100 feet tall be constructed for use by this mining operation? ___ ✓

E. Impact on Air Quality

1) Will any airborne dusts, fumes or objectionable odors leave the mine site as a result of the mining operation? ___ ✓

2) Will the project produce operating noise exceeding the usual local noise levels? ___ ✓

3) Will the proposed mining project involve frequent operation outside the hours of a typical working day (i.e. from 7 a.m. - 6 p.m.) or on holidays? ___ ✓

F. Impact on Plants and Animals

1) Will the proposed mining operation alter or disturb the existence or habitat of any plant or animal species officially designated as being threatened or endangered?

- If all questions have been answered "NO," it is likely that this project is not environmentally significant, and that no further SEQR review will be necessary.

- If any question has been answered "YES," further explanation will be required utilizing the Long Environmental Assessment Form.

In signing this Short Environmental Assessment Form, I hereby declare that all above stated questions have been answered honestly and correctly to the best of my knowledge, and am aware that I am subject to penalty under the laws of the State of New York if any discrepancies are found herein.

Preparer's Signature: Gayle R. Parmer Title: Pres.

Applicant: Date: 1-13-93

/0 -F 3-0134

S.P. Materials, Inc. is located at 170 Townline Road in Kings Park. This site is the base of our sand and gravel business. Here minerals from various sources are trucked in, processed, stockpiled and distributed. Adjacent to the site is a recently purchased 3.5 acre site that is proposed for mining.

The mine site is located south and west of Old Northport Road and east of Townline Road. The property is presently zoned light industrial and it is our future plan to grade the site to the elevation of Townline Road and to build on the site. There is a methane problem in the area and our plans of construction will be delayed until that situation is corrected.

The present plan is to mine starting at the northern end of the site and to progress in a southerly direction effecting approximately one acre at a time. The depth will be between 30 and 40 feet below Townline Road. As mining progresses, the northern portion will be backfilled with spoil (fine mineral and oversize mineral) generated from the processing site and from Rock Point Mining. It is also possible to add broken concrete, brick, stone and cobble with the spoil.

Our hope is to utilize the property and the resource while the problem of methane still exists. The mining operation will also help generate some monetary value back from the land and provide a deposit site for spoil.

The mining activity will not generate any additional use of equipment due to the fact that sand and gravel if not obtained from the mine site, would have to be trucked in from alternative sources and moved and loaded on the site by use of payloader and existing conveyors.

During times of extremely dry weather, water can be used to prevent any dust from leaving the site. At present there is a berm along Old Northport Road to screen the view of the operation.

The reclamation of the site is simply to backfill the pit with spoil and clean fill and then to grade it to the same elevation of Townline Road ($\pm$2 feet). Then, as mentioned before, our future land-use objective is to be able to build on the site.

ADDITION TO MINED LAND USE PLAN

It should be pointed out that when we reach a point about 2 to 4 feet below final grade, good sand and gravel will be used to meet final grade.

Until that time that building takes place, the site will be used for a stockpile storage area for the sand and gravel operation.

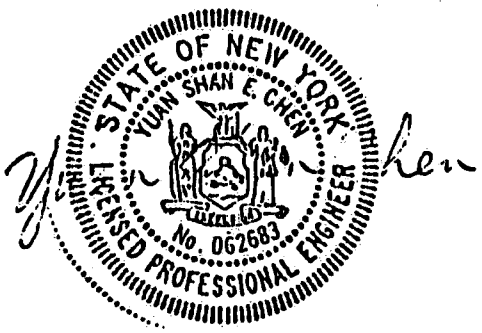
REFERENCE 8

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES IN THE STATE OF NEW YORK PHASE I INVESTIGATIONS

S.P. Materials, Inc.
Kings Park, Suffolk County
NYSDEC I.D. No. 152093

Prepared for

DIVISION OF HAZARDOUS WASTE REMEDIATION
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 Wolf Road
Albany, New York 12233-0001



Prepared by

YEC, INC.
Forest View Professional Building
10 Pine Crest Road
Valley Cottage, New York 10989

In Association with

LAWLER, MATUSKY & SKELLY ENGINEERS
Environmental Science & Engineering Consultants
One Blue Hill Plaza
Pearl River, New York 10965

September 1989

4. SITE ASSESSMENT

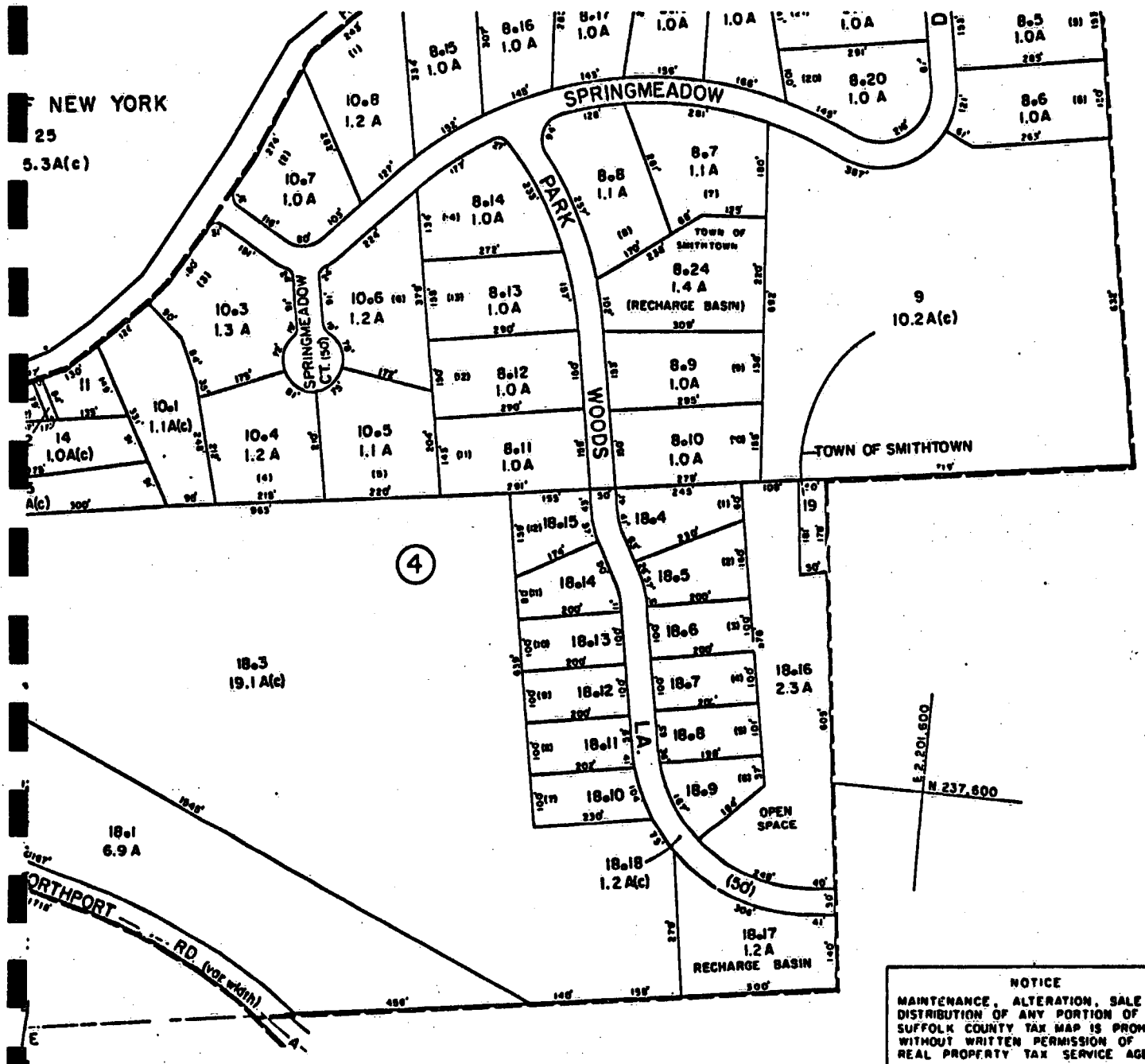
4.1 SITE HISTORY

S. P. Materials, Inc. (NYSDEC I.D. # 152093) is located at 170 Town Line Road in Kings Park, New York. The site consists of two parcels. One parcel, approximately 3.6 acres located south and west of Old Northport Road and east of Town Line Road is used for sand and gravel operation. A three year renewable mining permit was issued by the Town of Smithtown on May 16, 1983. Raw mine material was removed from the pit, processed, sold and delivered with S. P. Materials' own trucks. The pit is currently about 3 acres by approximately 50 feet deep.

A one year, renewable, construction and demolition debris landfill permit was issued on July 1, 1983 by New York State Department of Environmental Conservation (NYSDEC) and expired on July 1, 1984. During the first period, approximately 15 to 20 dump truck loads of construction debris (brick, cobble, block, concrete and wood) were dumped on the side of the pit and these debris were covered with a good quality clay earth for erosion and appearance purposes.

The other parcel, approximately 6 acres purchased in 1973 has various structures including a small office/workshop, a storage shed, a lagoon and various mining equipments.

There is a well onsite which is used about 30 days per year to supply water for washing gravel. The site is completely fenced

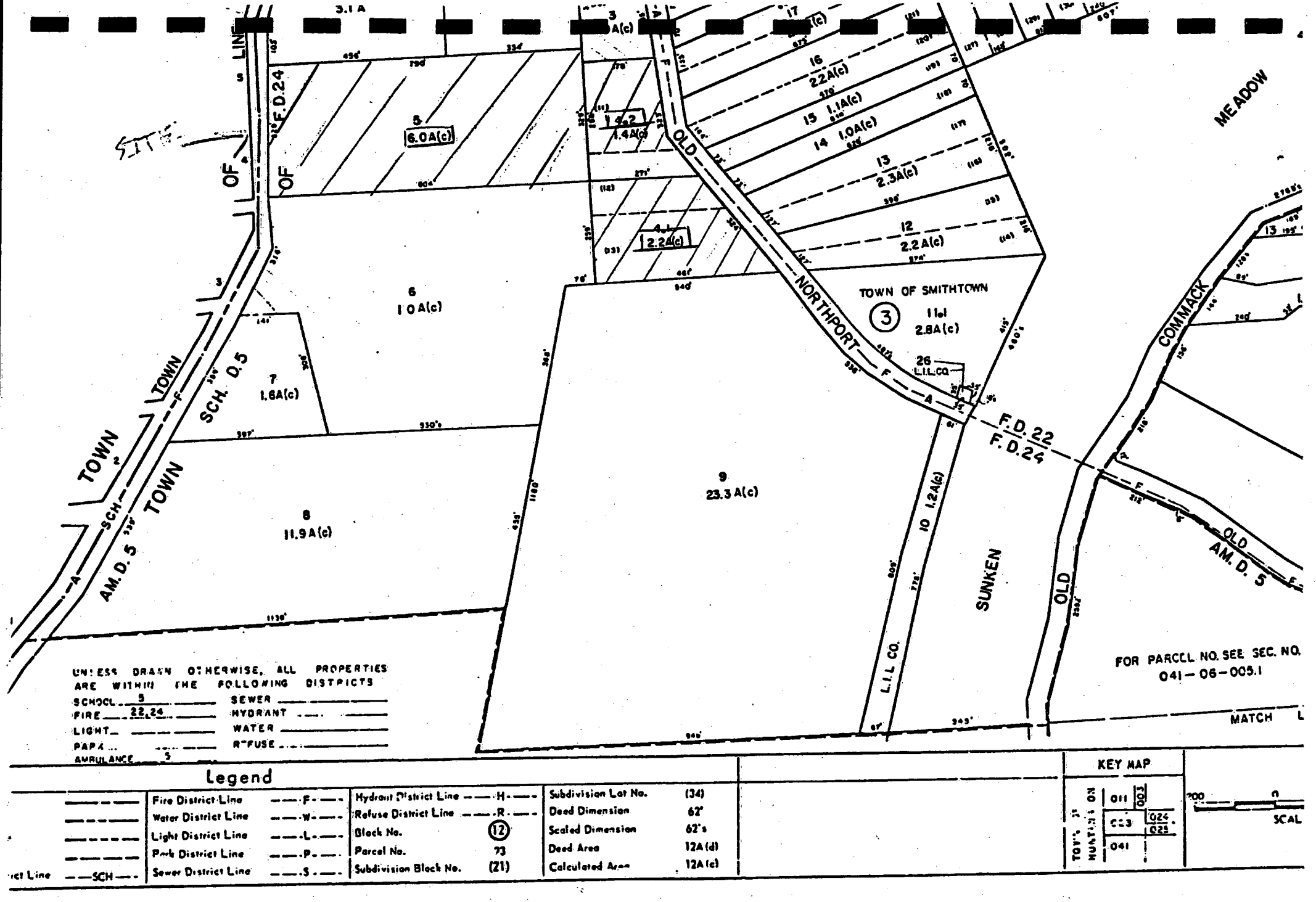


NOTICE
MAINTENANCE, ALTERATION, SALE OR DISTRIBUTION OF ANY PORTION OF THE SUFFOLK COUNTY TAX MAP IS PROHIBITED WITHOUT WRITTEN PERMISSION OF THE REAL PROPERTY TAX SERVICE AGENCY

Real Property Tax Service Agency
County Center
Riverhead, L. I., New York

TOWN OF SMITHTOWN
VILLAGE OF
DISTRICT NO. 0800
Date of Completion D

SECTION NO.
023
PROPERTY MAP



UNLESS DRAWN OTHERWISE, ALL PROPERTIES ARE WITHIN THE FOLLOWING DISTRICTS

SCHOOL	5	SEWER	
FIRE	22,24	HYDRANT	
LIGHT		WATER	
PARK		REFUSE	
AMBULANCE	5		

Legend

	Fire District Line —F—	Hydrant District Line —H—	Subdivision Lot No.	(34)
	Water District Line —W—	Refuse District Line —R—	Deed Dimension	62'
	Light District Line —L—	Block No.	(12)	Scaled Dimension	62's
	Park District Line —P—	Parcel No.	73	Deed Area	12A(d)
	Sewer District Line —S—	Subdivision Block No.	(21)	Calculated Area	12A(c)
Line	—SCH—				

KEY MAP

200 0

SCALE

REFERENCE 9

S. P. Materials, Inc.
170 Townline Road
Kings Park, New York 11754

County of Suffolk

Town of Smithtown

MINING PERMIT ATTACHMENT

The following conditions are attached and part of Mining Permit Number 02834 issued to S.P. Materials, Town of Smithtown, Suffolk County. Permit issuance date 5/16/83. Expiration Date 5/16/86.

1. The permittee shall conduct all mining and reclamation operations in compliance with the approved mined land-use plan, Title 27 of Article 23 of the Environmental Conservation Law, and Subchapter D of Title 6 of the New York State Code Rules and Regulations (6NYCRR, Subchapter D, Parts 420-426).

2. The permittee shall indemnify and hold harmless the State of New York for all accounts, damages, costs and judgments of every name and description arising from its mining operations and reclamation of lands performed pursuant to this permit.

3. Other site-specific conditions described as follows:

   Mining will be permitted only on that site of 3.5 acres located south and west of Old Northport Road and east of Townline Road, Town of Smithtown..

4. This approval does not relieve the recipient of the need to obtain approvals which may be required by other State, Federal or local agencies.

REFERENCE 10

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

PERMIT

Under the Environmental Conservation Law, Article 27, Title 7, Part 360

PERMIT NO.
52-D-15

EXPIRATION DATE
7-01-84

☐ CONSTRUCTION ☒ INITIAL ISSUE ☐ REISSUANCE
☒ OPERATION ☐ RENEWAL ☐ MODIFICATION

10-83-0134

PERMIT ISSUED TO	ADDRESS OF PERMITTEE	TELEPHONE NO.
S.P. Materials Inc.	170 Townline Road Kings Park, NY 11754	(516) 266-1000

LOCATION OF PROJECT Town	County	Environmental Conservation Regional Office
Smithtown	Suffolk	Region I Stony Brook, New York 11794

DESCRIPTION OF PROJECT	ON-SITE SUPERVISOR
Construction & Demolition Debris Disposal Site	Stephen D. Pomaro

GENERAL CONDITIONS

1. The permittee shall file in the office of the Environmental Conservation Region specified above, a notice on intention to commence work at least 48 hours in advance of the time of commencement and shall also notify said office promptly in writing of the completion of the work.
2. The permitted work shall be subject to inspection by an authorized representative of the Department of Environmental Conservation who may order the work suspended if the public interest so requires.
3. As a condition of the issuance of this permit, the applicant has accepted expressly, by the execution of the application, the full legal responsibility for all damages, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and has agreed to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from the said project.
4. All work carried out under this permit shall conform to the approved plans and specifications. Any amendments must be approved by the Department of Environmental Conservation prior to their implementation.
5. The permittee is responsible for obtaining any other permits, approvals, easements and rights-of-way which may be required for this project.
6. By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with Part 360 and the special conditions. Any variances granted by the Department of Environmental Conservation to Part 360 must be in writing and attached hereto.

SPECIAL CONDITIONS

SEE ATTACHED

ISSUE DATE	ISSUING OFFICER	SIGNATURE
7/1/83	Daniel J. Larkin Regional Permit Administrator	X

PERMITTEE COPY

Attachment
..-D-15
..P. Materials, Inc.

SPECIAL CONDITIONS

1. Wastes to be accepted shall be limited to fines, oversized rocks, and demolition debris, consisting of broken cobble, brick and wood.
2. Wastes not to be accepted shall include, but not be limited to, putrescible household waste (garbage), commercial waste, industrial and hazardous waste, cardboard, paper, leaves, grass clippings, landscaping debris, septic waste, or any other wastes which might in any way affect groundwater quality.
3. Any materials found to be unsuitable shall be removed immediately upon request.
4. All landfilling activities shall be confined to the 3.5 acre proposed debris site as delineated on the map entitled "S.P. Materials, Area Map, Property at Kings Park, Town of Smithtown, Suffolk Co., N.Y.", dated March 31, 1976.
5. Access to and use of the facility shall be controlled by fencing, gates, signs or other suitable means.
6. Final closure shall include a minimum cover of 24 inches of sand and gravel. The final elevation of the fill shall not exceed surrounding existing grade. The site shall be graded to eliminate ponding of surface water.

REFERENCE 11

File

New York State Department of Environmental Conservation
Division of Solid/Hazardous Waste
Building 40, SUNY
Stony Brook, New York 11794
(516) 751-2617

Henry G. Williams
Commissioner

September 28, 1984

S. P. Materials
170 Townline Road
Kings Park, New York 11754

Re: Inspection of September 21, 1984
Facility ID No. 52-D-15

Dear Mr. Pomaro:

This letter is to advise you that on a recent inspection of your site, unacceptable material was found (vehicle parts). The only materials you are allowed to dispose of are listed in the first special condition of your permit which states: "Wastes to be accepted shall be limited to fines, oversized rocks and demolition debris consisting of broken cobble, brick and wood."

This letter is also to advise you that you adequately cleaned up the unacceptable material found and discussed with you on September 18, 1984.

Very truly yours,

Robert A. Becherer, P.E.
Senior Sanitary Engineer

RAB:dm
cc: P. Barbato
R. Frey

[redacted]CTION 1

47-15-1 (8/80)

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID WASTE MANAGEMENT

FACILITY INSPECTION REPORT

FACILITY NAME: S. P. MATERIALS

LOCATION: 170 TOWN LINE ROAD KINGS PARK, NY 11754

PERSONS INTERVIEWED & TITLES: STEVEN POMARO.

SITE SKETCH/COMMENTS (additional sheets attached ☐ YES ☐ NO)

THERE WAS SOME SMALL AMOUNT OF UNACCEPTABLE ON THE SITE. MR POMARO CLAIMED IT HAD MISTAKENLY BEEN DUMPED BY HIS PERSONNEL. MR POMARO WAS ADVISED ~~THAT~~ WHAT MATERIAL IS PERMITTED FOR DISPOSAL AT THE SITE.

Robert A Becker
INSPECTOR'S SIGNATURE

1 TRANS.TYPE 1 ☐ Delete 2 ☐ Add
2 FACILITY NO. 7 52015
8 DATE 09/19/84
13 14 TIME 1130
INSPECTOR'S NAME ROBERT A BECKER

REMARKS

LEACHATE
1. Leachate is entering surface water.
2. Leachate is known to be contravening groundwater standards.
3. Refuse is being placed into water.

BURNING
4. Refuse is burning without permit or not under permit conditions.
5. There is evidence of unapproved previous burning.

COVER
6. Previous days refuse is not covered.
7. Refuse is protruding through daily, intermediate or final cover.
8. Intermediate or final cover is not in place or improperly applied.

GRADING
9. Depressions, ponding, cracked cover, or slopes steeper than 3 to 1 exist.
10. Vegetative cover is missing or inadequate on completed areas.
11. Soil erosion or other drainage problems exist.

SEPARATION DISTANCES
12. Refuse is closer than 50 feet to site boundaries.
13. Refuse is being placed less than 5 feet above groundwater or bedrock.
14. Refuse is being placed too close to surface water.

NUISANCE CONDITIONS
15. Odors are detectable off site.
16. Blowing dust or dirt is a nuisance.
17. Papers are uncontrolled or are blowing off-site.
18. Methane gas is known to be leaving the site.
19. Noise is a nuisance off-site.

OPERATION CONTROL
20. Operation Permit conditions are being violated. (List violations)
21. Refuse is not sufficiently confined or controlled.
22. Refuse is spread in layers thicker than 2 feet.
23. Refuse is not compacted or compacted insufficiently.
24. The working face height is greater than 10 feet.
25. Equipment on the site is not adequate for proper operation.

SAFETY AND HEALTH
26. Salvaging is uncontrolled or is creating a nuisance.
27. Rodents, insects, birds, or other vectors are not controlled.
28. Unsafe conditions or equipment exist. (List items)

ACCESS CONTROL
29. Access to the site is improper, unsafe, or inadequately controlled.
30. The site is open without an attendant.
31. Information about the site is not posted. (e.g., hours of operation).
32. Access to the operating area is poor or unsafe.

OTHER
33. Uncontrolled leachate is visible on, or near the site.
34. The quality of cover material is inadequate.
35. The working face is steeper than a 3 to 1 slope.
36. Monitoring wells are not operative.
37. Unapproved wastes have been deposited since last inspection.
38. Operator is unfamiliar with wite boundaries, operation plan or permit

20 CARD 21 TYPE 1 1
20 CARD 21 TYPE 1 2

MARK BOXES WITH "X" ONLY IF ANSWER IS YES

REGIONAL OFFICE COPY

REG 1

47-15-1 (8/80)

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID WASTE MANAGEMENT

FACILITY INSPECTION REPORT

1 TRANS. TYPE 1 ☐ Delete 2 ☐ Add	2 FACILITY NO. 7	8 DATE 13	14 TIME 17
	52D15	09/21/84	0700

20 CARD TYPE 21	22 INSPECTOR'S NAME 36	37	38 REMARKS 72
1 1	BECHERER		

FACILITY NAME: JP MATERIALS

LOCATION: TOWNLINE RD

PERSONS INTERVIEWED & TITLES: NO ONE ON SITE AT TIME OF INSPECTION

LEACHATE
1. Leachate is entering surface water.
2. Leachate is known to be contravening groundwater standards.
3. Refuse is being placed into water.

BURNING
4. Refuse is burning without permit or not under permit conditions.
5. There is evidence of unapproved previous burning.

COVER
6. Previous days refuse is not covered.
7. Refuse is protruding through daily, intermediate or final cover.
8. Intermediate or final cover is not in place or improperly applied.

GRADING
9. Depressions, ponding, cracked cover, or slopes steeper than 3 to 1 exist.
10. Vegetative cover is missing or inadequate on completed areas.
11. Soil erosion or other drainage problems exist.

SEPARATION DISTANCES
12. Refuse is closer than 50 feet to site boundaries.
13. Refuse is being placed less than 5 feet above groundwater or bedrock.
14. Refuse is being placed too close to surface water.

NUISANCE CONDITIONS
15. Odors are detectable off site.
16. Blowing dust or dirt is a nuisance.
17. Papers are uncontrolled or are blowing off-site.
18. Methane gas is known to be leaving the site.
19. Noise is a nuisance off-site.

OPERATION CONTROL
20. Operation Permit conditions are being violated. (List violations)
21. Refuse is not sufficiently confined or controlled.
22. Refuse is spread in layers thicker than 2 feet.
23. Refuse is not compacted or compacted insufficiently.
24. The working face height is greater than 10 feet.
25. Equipment on the site is not adequate for proper operation.

SAFETY AND HEALTH
26. Salvaging is uncontrolled or is creating a nuisance.
27. Rodents, insects, birds, or other vectors are not controlled.
28. Unsafe conditions or equipment exist. (List items)

ACCESS CONTROL
29. Access to the site is improper, unsafe, or inadequately controlled.
30. The site is open without an attendant.
31. Information about the site is not posted. (e.g., hours of operation)
32. Access to the operating area is poor or unsafe.

OTHER
33. Uncontrolled leachate is visible on, or near the site.
34. The quality of cover material is inadequate.
35. The working face is steeper than a 3 to 1 slope.
36. Monitoring wells are not operative.
37. Unapproved wastes have been deposited since last inspection.
38. Operator is unfamiliar with site boundaries, operation plan or permit

20 CARD TYPE 21: 1 2

MARK BOXES WITH "X" ONLY IF ANSWER IS YES

REGIONAL OFFICE COPY

SITE SKETCH/COMMENTS (additional sheets attached: ☐ YES ☐ NO)

SITE WAS CLEANED UP FROM PREVIOUS VISIT OF 9/18/84. HOWEVER, TRUCK PARTS, (BRAKE DRUMS, ETC WERE LAYING AT THE TOP OF THE HOLE READY FOR BURIAL.

Robert A Becherer

INSPECTOR'S SIGNATURE

REFERENCE 13

De

New York State Department of Environmental Conservation

MEMORANDUM

TO: Tony Candela, Region 1
FROM: T.S. Manickam, Bureau of Hazardous Site Control T. S. Manickam 11/21/89
SUBJECT: Final Phase I Reports - S.P. Materials, Inc., Kings Park, Suffolk County
DATE: Site I.D. No. 152093
November 21, 1989

Attached are five copies of the above-referenced final Phase I report. Please forward one copy of the report to the Suffolk County Health Department. We will send copies to the USEPA, State Health Department, Town, and owner.

S.P. Materials, Inc. - The site consists of two parcels, one parcel approximately 3.6 acres is used for sand and gravel operation, and the other parcel is approximately six acres which has various structures including a small office, workshop, a storage shed, a lagoon and various mining equipment. According to the owner a rusted drum was noted by NYSDEC personnel and hence the site was placed on the Registry. According to the report there was no external evidence of hazardous waste disposal on site. The Phase I report rcommends sampling of an site well if it is located in the downgradient direction and to collect soil samples from boring for chemical analysis along the edge of the C & D dump area prior to Phase II investigation. I concur with the consultant's recommendation.

Please call me at (518) 457-0639 if you have any questions or comments.

Attachments

bcc: E. Barcomb
J. Swartwout
M. Komoroske

File

TM/ch

6

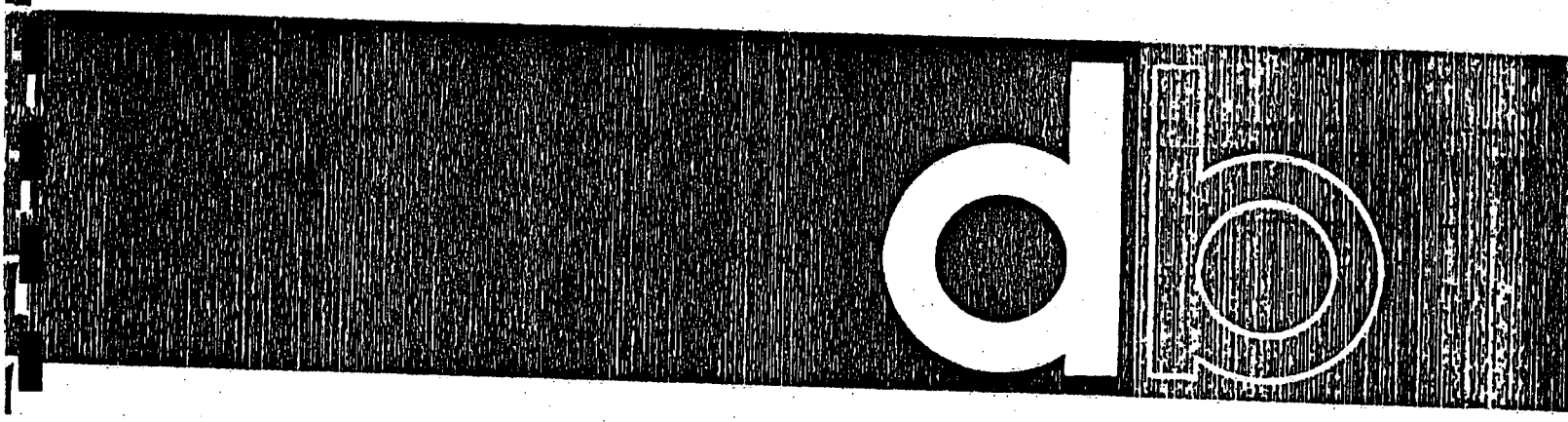
REFERENCE 14

REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

WORK PLAN

East Northport Landfill
Town of Huntington,
Suffolk County, New York

AUGUST 1988



Dvirka and Bartilucci

Consulting Engineers

SECTION 3.0 SITE HISTORY AND BACKGROUND

AUG. 1988

3.1 Site History

As described in Section 1.0 (Introduction), the Town of Huntington currently operates a 44 acre solid waste landfill located in East Northport, New York (Figure 1.0–1). Initial activities, which commenced at the site in 1935, consisted of sand mining operations and disposal (landfilling and open burning) of municipal solid waste. Prior to use of the site as a sand mine and for disposal of solid waste, the area was cultivated as farmland.

Currently, an average of 650 tons per day of refuse is received at the landfill site. Nearly fifty percent, or approximately 350 tons of the refuse, as well as ash residue generated by the town incinerators, is landfilled each day.

3.2 Site Background

3.2.1 Groundwater Monitoring

In 1979, the Town initiated a groundwater monitoring program to determine the nature and extent of leachate in the vicinity of the landfill. As part of this program, six (6) wells were installed along the perimeter of the landfill. In addition, 16 public water supply wells within a two–mile radius of the landfill were examined to determine if a leachate plume had impacted public water supplies in the vicinity of the landfill. Specific conductivity, pH, various inorganic chemicals, total dissolved solids and chemical oxygen demand (COD) were selected to delineate the leachate plume and to determine impacts on water supply. The location of the six (6) monitoring wells and public water supply wells utilized in the study are shown in Figures 3.2–1 and 3.2–2 respectively. These monitoring wells are no longer in existence.

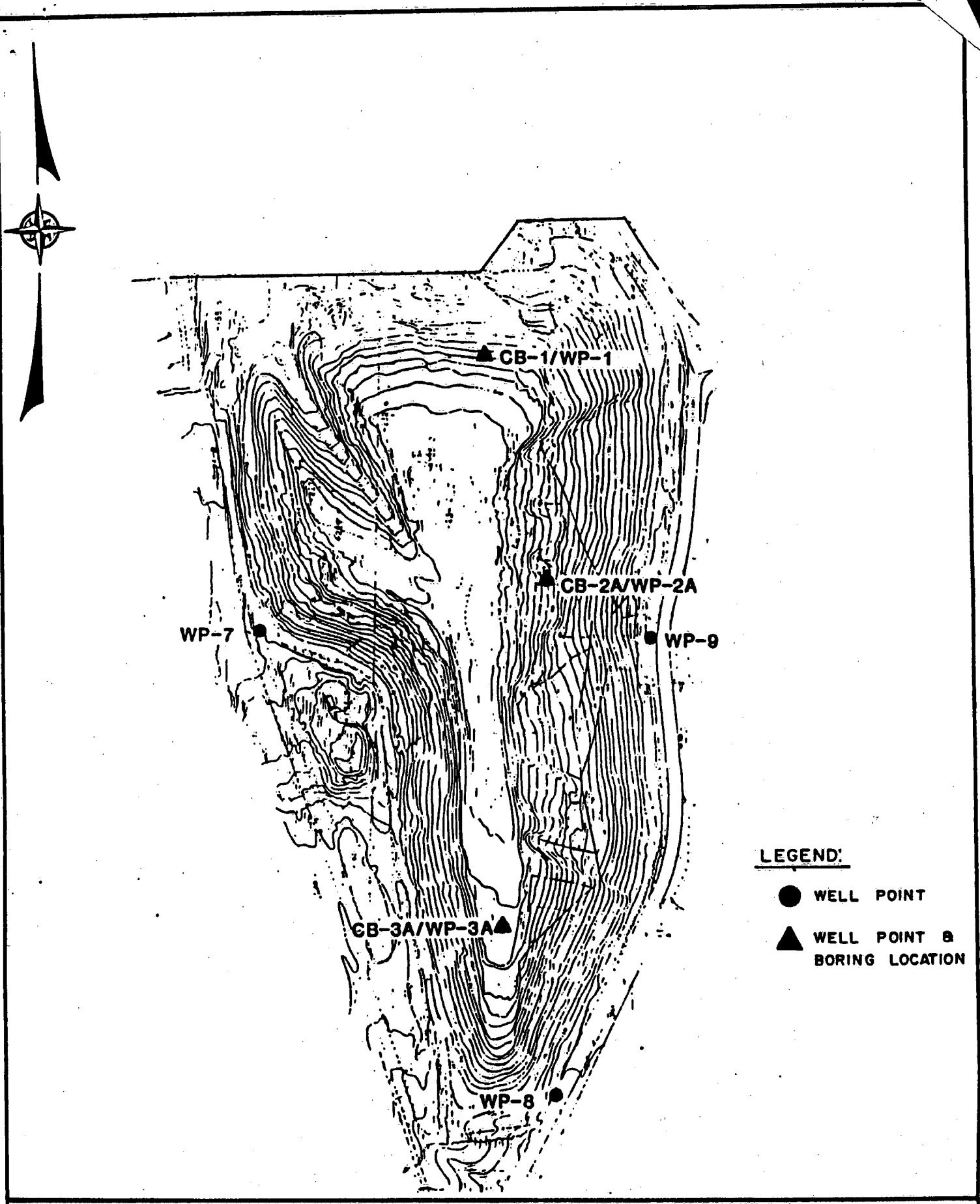
Results from this study indicated that leachate was present in the ground water and that it extended in a northeast direction (see Figure 3.2–3). Groundwater flow direction is confirmed by groundwater contours prepared by the United States Geological Survey (see Figure 3.2–4). Elevated concentrations of inorganic chemicals in relation to ambient levels were noted in two (2) shallow public water

supply wells, (S–15515 and S–15923). Well S–15515 (356 feet deep) is located 2,300 feet northwest of the landfill and Well S–15923 is located 2,000 feet south and slightly west at a depth of 263 feet. Although specific conductivity, sulfates, nitrates, total hardness and chlorides were high, it was concluded that source(s) other than the landfill impacted these two public water supply wells since the wells are not downgradient of the landfill. This information is provided in greater detail in a report entitled "Landfill Leachate Study – Phase I" prepared by H2M Corp. in February, 1979.

In 1980, the Suffolk County Department of Health Services (SCDHS) collected and analyzed drinking water samples from residential private wells in the vicinity of the landfill primarily along Meadow Glen Road, which is northeast of the site. Based on SCDHS data through 1986, the most prevalent organic chemical contaminant found in these private wells is tetrachloroethylene up to 140 ug/l, and trace levels of trichloroethane (up to 20 ug/l), trichloroethylene (up to seven [7] ug/l), and cis–dicloroethylene (up to eight [8] ug/l).

Evidence of chemical contamination of these private drinking water wells resulted in a consent order agreement between the Town of Huntington and NYSDEC in 1981. As part of the agreement, one (1) upgradient and three (3) downgradient groundwater monitoring well clusters were installed in 1982 (see Figure 3.2–5). Each of the three downgradient well clusters (CW1,CW2 and CW3) consisted of three wells screened at shallow, medium and deep depths. The upgradient well (UW1) was a single well with multiple screens varying in depth from shallow to deep. These wells are constructed of six (6) inch diameter PVC casing and five (5) inch PVC screens.

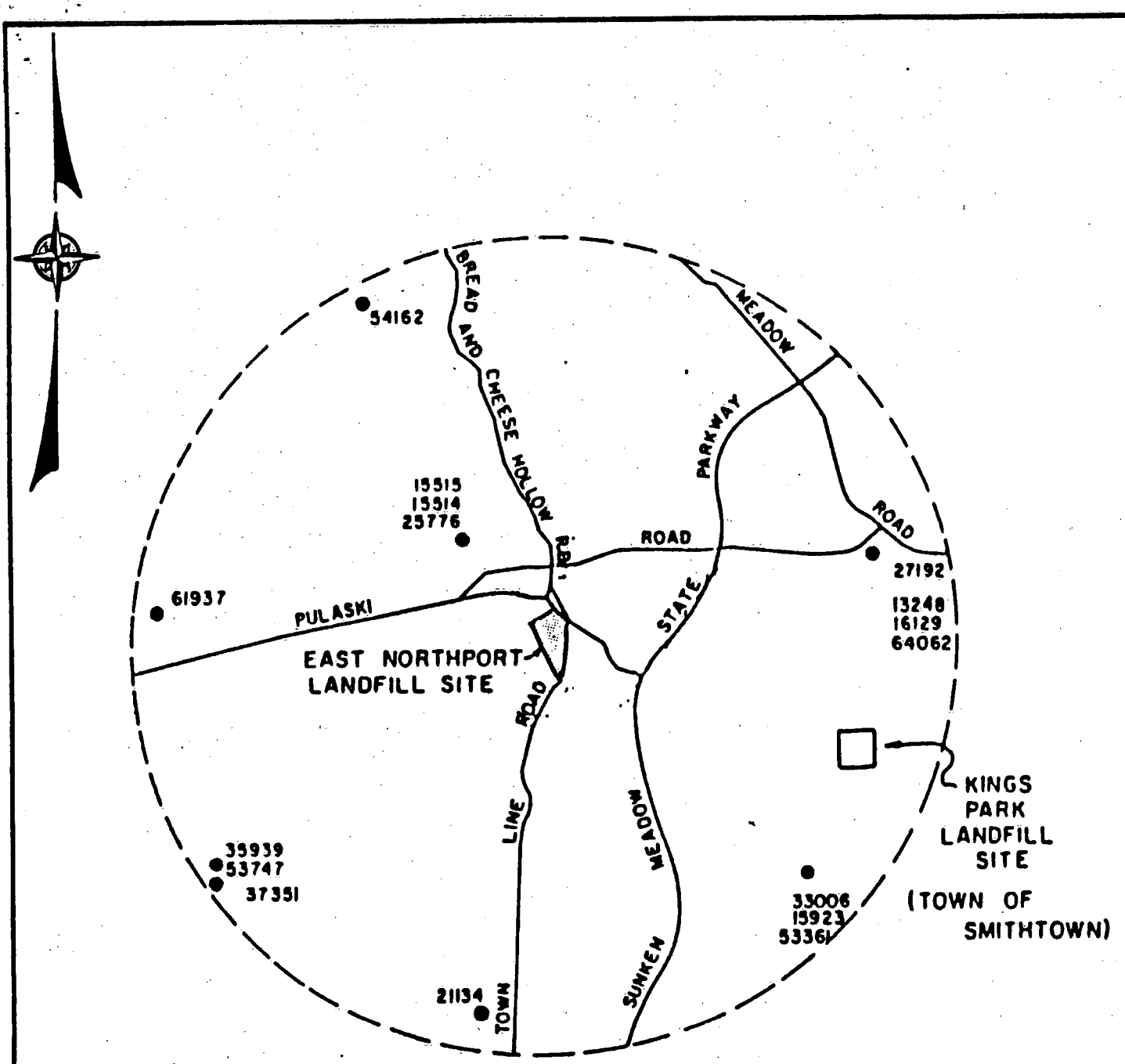
The wells in cluster CW1 are screened at 80, 93, and 112 feet below ground surface; CW2 wells are screened at 103, 117 and 155 feet; CW3 wells at 156, 170 and 266 feet. The upgradient well UW1 is screened at separate 10 foot intervals between 80 and 150 feet. Samples collected from these wells were analyzed for leachate indicators including ammonia, total dissolved solids, conductivity, total organic carbon, chloride, sulfate, iron, bicarbonate and pH, and were compared to the upgradient well to define leachate plume composition and extent, as well as the relative contribution of landfill leachate compared to existing groundwater contaminant concentrations.



EAST NORTHPORT LANDFILL REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

Dvirka and

LOCATION OF THE PHASE I STUDY LEACHATE MONITORING WELLS

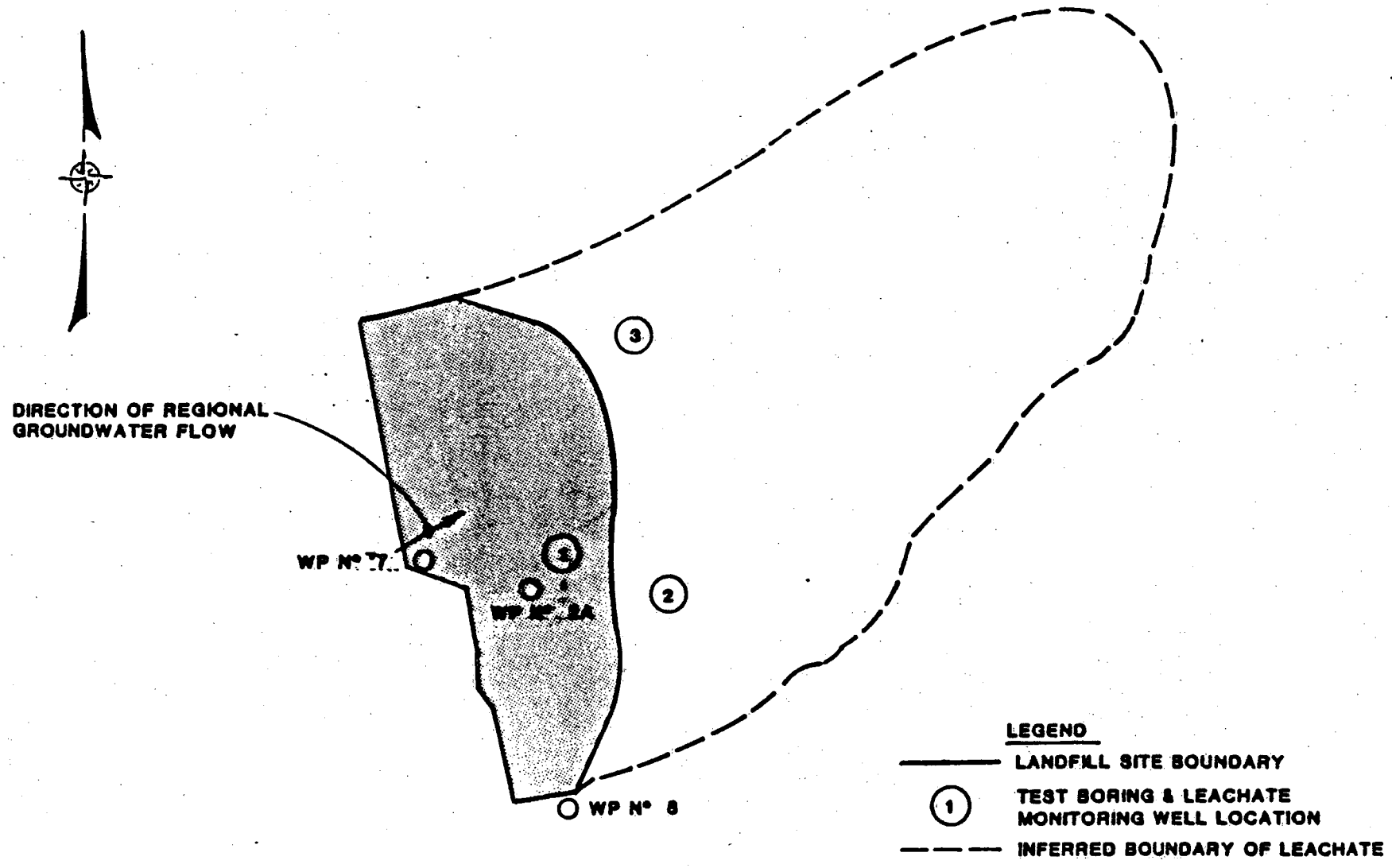


SOURCE: H2M CORP.

EAST NORTHPORT LANDFILL REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

LOCATION OF PUBLIC WATER SUPPLY WELLS SURROUNDING THE

Dvirka and



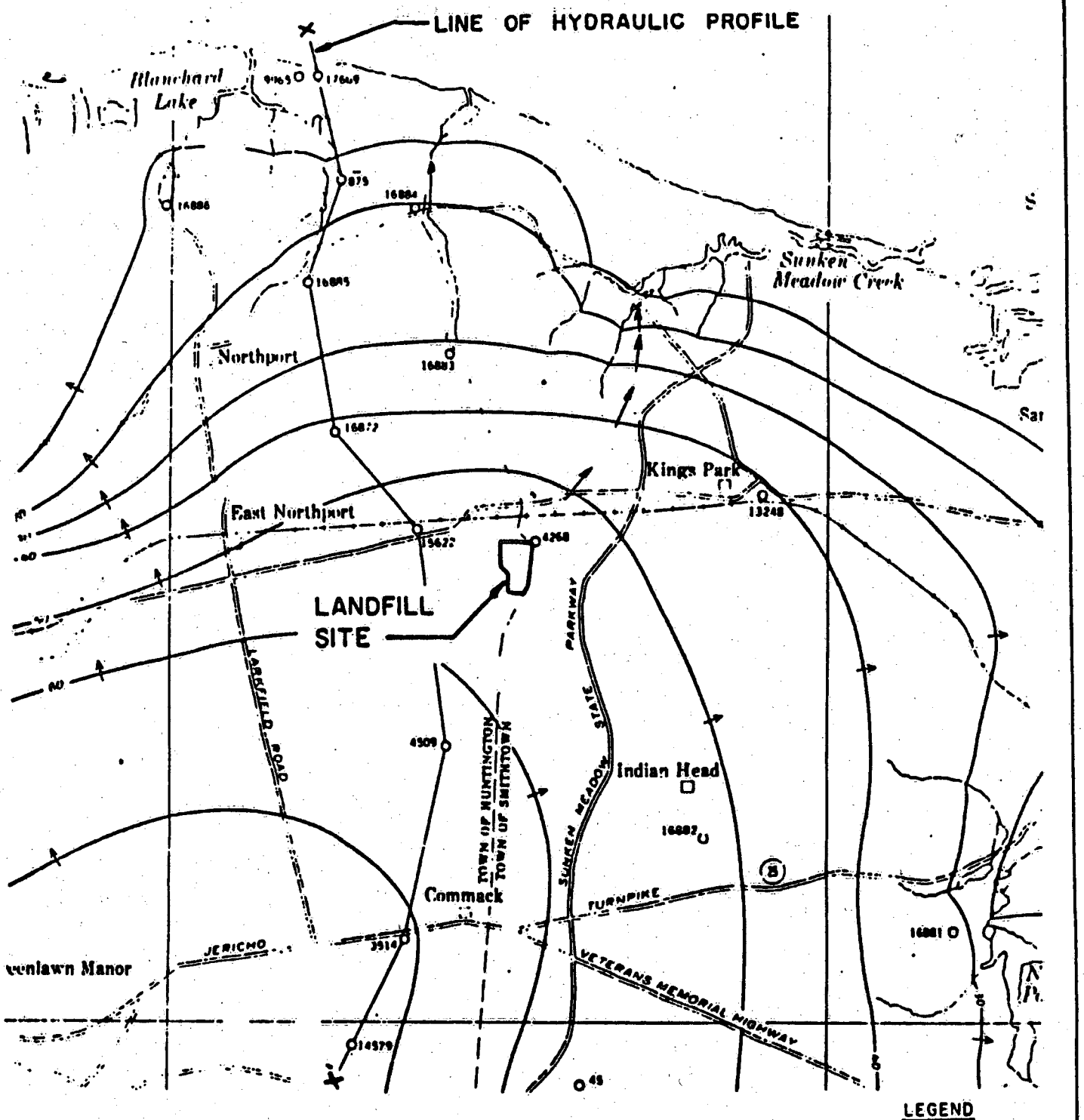
SOURCE: H2M CORP.

EAST NORTHPORT LANDFILL REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

Dvirka and Bartilucci CONSULTING ENGINEERS

RESULTS OF PHASE I LANDFILL LEACHATE STUDY

FIGURE NO. 3.2-3



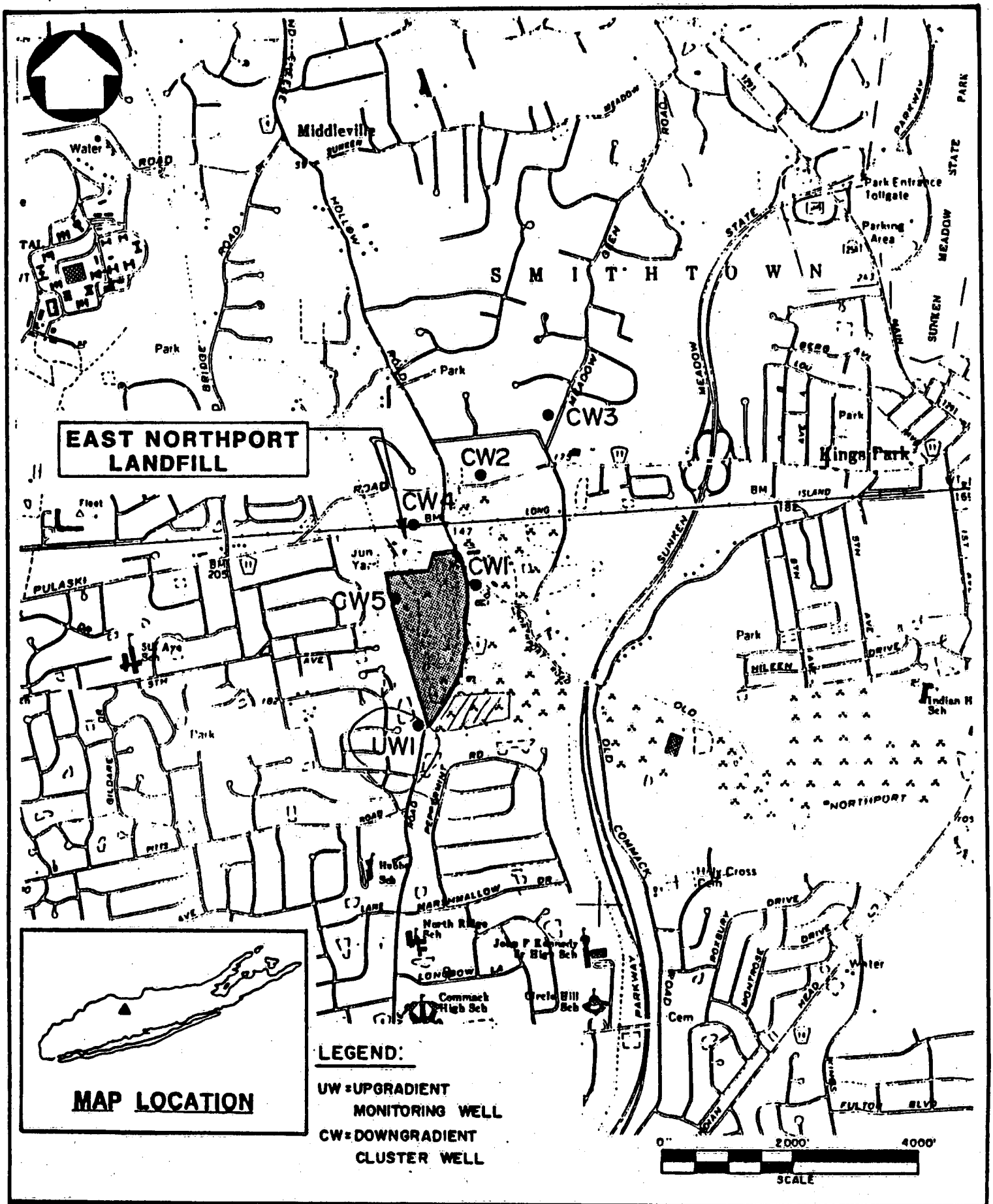
SOURCE: H2M CORP.

EAST NORTHPORT LANDFILL REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

Dvirka and Bartlucci

GROUNDWATER CONTOURS IN THE LOCATION OF THE PROJECT SITE

FIGURE NO. 3.2-4



EAST NORTHPORT LANDFILL REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

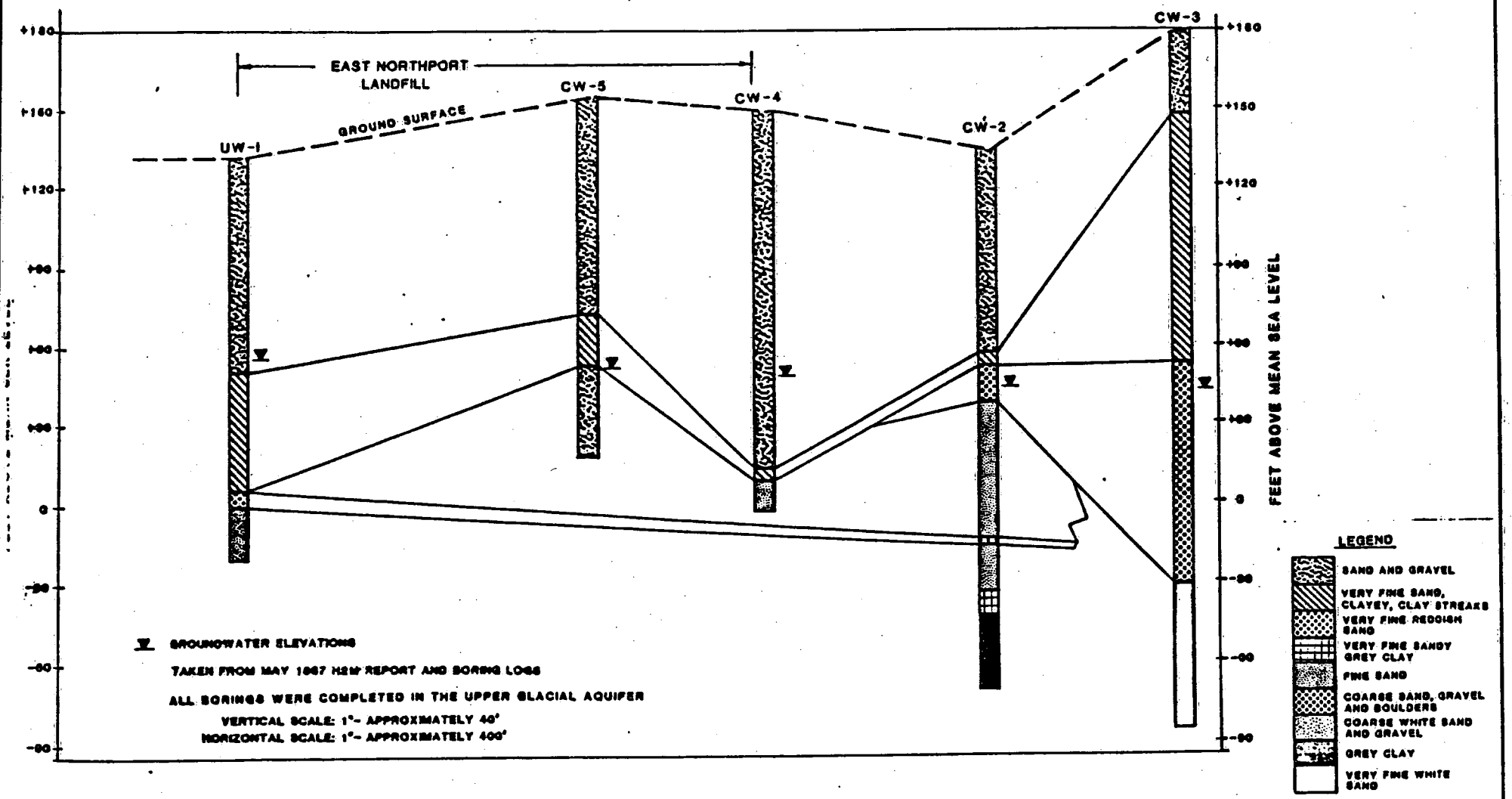
Dvirka and

LOCATION OF EXISTING MONITORING

Results of the sampling program between 1982 and 1986 showed above ambient concentrations of ammonia in essentially all downgradient wells, particularly in the shallow and deep wells nearest the landfill (CW1), and to a lesser degree in the mid-depth and deep wells further from the landfill (CW2 and CW3). Both total dissolved solids concentrations and specific conductivity were observed to be the highest in the shallow and medium depths of well cluster CW1, the mid-depth well in cluster CW2 and the deep well in cluster CW3. Total dissolved solid concentrations in wells CW1S, CW1M, CW2M and CW3D were in excess of 1,000 mg/l, and greater than 500 mg/l in wells CW2S and CW2D. Total dissolved solid concentrations in the upgradient well (UW1) averaged less than 200 mg/l.

In addition, a comparison of chloride, total organic carbon and pH concentrations in the upgradient and downgradient wells shows that these constituents are also highest near the landfill at shallow and medium depths (CW1). These constituents decrease with distance from the landfill in well clusters CW2 and CW3, but generally remain higher than the upgradient well cluster. Heavy metals, pesticides and volatile organic chemicals were also sampled for during 1986. No pesticides and only trace amounts of volatile halogenated organics and heavy metals were detected in the monitoring wells. (Ethylbenzene at 13 ug/l was the highest concentration of organic chemicals detected.) More detailed information regarding collection and analysis of this data is contained in reports entitled "Groundwater Monitoring Report - East Northport Landfill" prepared by H2M Corp. in July, 1983 and February, 1986.

During 1987 two additional well clusters comprising two (2) wells each (CW4 and CW5) were installed to monitor groundwater at shallow and deep depths along the northern and western boundaries of the landfill site (see Figure 3.2-6). The shallow wells were installed at 115 to 125 feet and the deep wells at 140 to 150 feet. Groundwater samples from these monitoring wells were analyzed for purgeable organics, base neutral extractables, acid extractables as well as specific conductivity and pH. With the exception of pthalates (placticizers), only low levels of priority pollutants were detected. The concentration of pthalates, which are ubiquitous throughout the environment, were found in the field and trip blanks and may not be indicative of environmental conditions in the vicinity of the landfill.



EAST NORTHPORT LANDFILL REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

GEOLOGICAL CROSS-SECTION BASED ON EXISTING MONITORING WELLS

Dvirka and Bartilucci

FIGURE NO. 3.2-6

During the sampling program at well clusters CW4 and CW5, water levels were measured and the hydraulic gradient was estimated. In the immediate area of the landfill site, the hydraulic gradient was determine to be 0.003 ft./ft and the gradient decreased slightly to 0.002 ft./ft. in the residential area to the north. Further, the estimated horizontal groundwater velocities for the area were three (3) feet/day and two (2) feet/day in the vicinity of the landfill and to the north, respectively. Information pertaining to the 1987 study is contained in a report entitled "Phase II Hydrogeological Investigation" prepared by the H2M Corp. in May, 1987. A tabulation of the groundwater monitoring well data collected between 1982 and 1987 is provided in Tables 3.2-1 through 3.2-5. A geologic cross-section based on data obtained from the existing cluster monitoring wells is provided in Figure 3.2-6.

3.2.2 Landfill Gas Monitoring

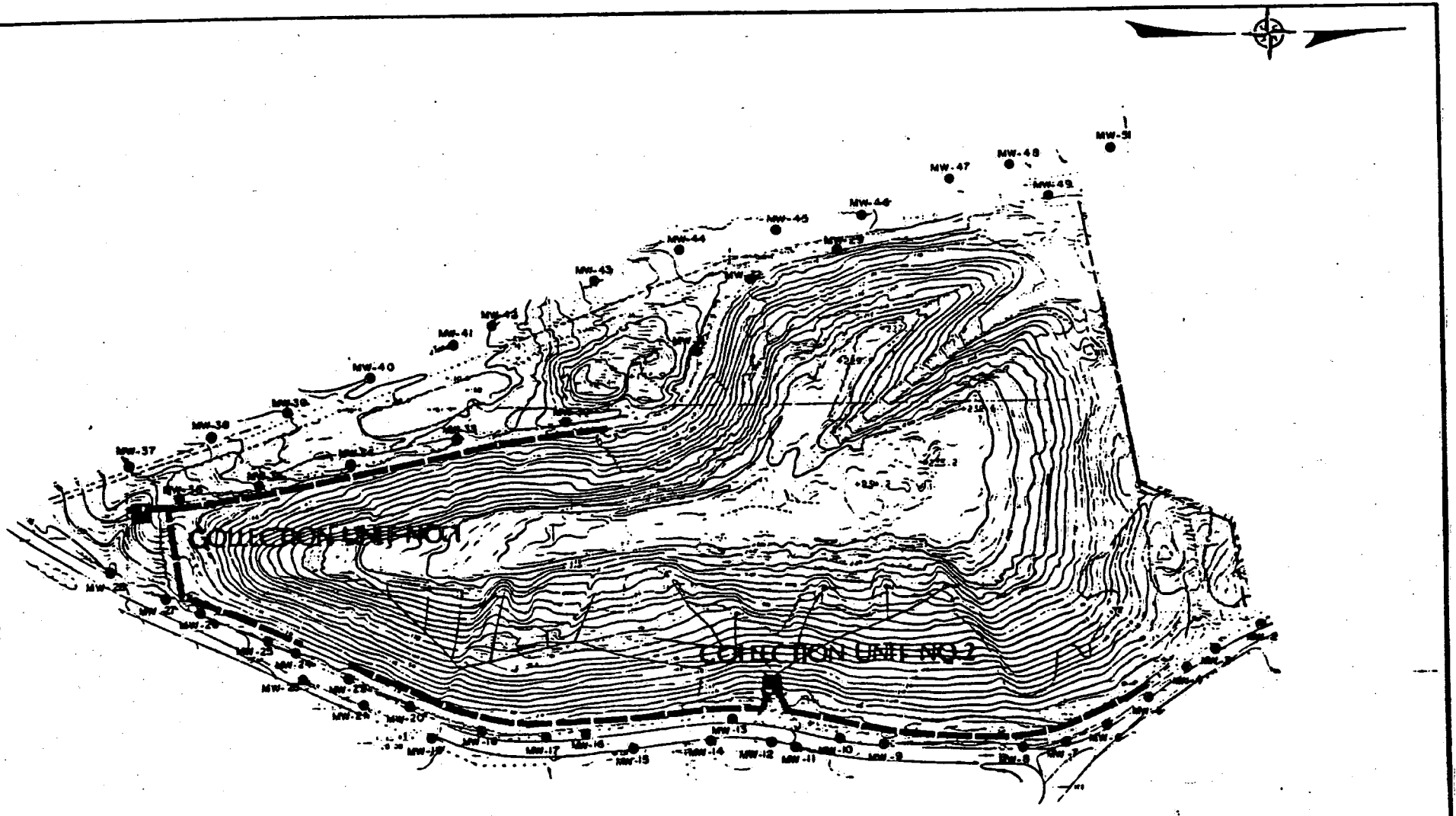
In 1978, the Town of Huntington initiated a methane gas monitoring and control program. Passive venting wells were installed to prevent off-site methane migration. In addition, monitoring wells were installed to determine the actual concentration of methane gas along the site boundary. The methane gas venting system was upgraded in 1979, with the installation of an active gas collection system along the southern portion of the landfill. The active system was further expanded with the addition of a separate active system along the eastern portion of the landfill in 1981, as illustrated in Figure 3.2-7.

An additional methane control system, referred to as an "air curtain" which creates a positive pressure, was installed in the maintenance garage with a continuous monitoring system during 1986. A total of 49 monitoring wells were also installed around the landfill in 1986, to further detect the extent of landfill gas migration (see Figure 3.2-7).

3.3 Nature and Extent of Problem

3.3.1 Groundwater Contamination

As a result of groundwater monitoring in the vicinity of the East Northport



UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW

Dvirka and Bartlucci

EAST NORTHPORT LANDFILL REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

LOCATION OF EXISTING LANDFILL GAS MONITORING AND CONTROL SYSTEMS

FIGURE NO. 3.2-7

TABLE 3.2-1
EAST NORTHPORT LANDFILL
LEACHATE INDICATORS

CONSTITUENTS	GROUNDWATER AND DRINKING WATER STANDARDS	UW1 DEC. 1982	UW1 APRIL 1986	UW1 AUG. 1986	UW1 NOV. 1986
Ammonia	--/2.0	0.2	0.5	(0.20	(0.2
Chloride	250/250	16	16	18	15
Detergents (MBAS)	.5/--		(0.04	(0.04	(0.04
Nitrate (NO3-N)	10/10		5	3.3	3.6
Specific Conduct.	--/--	220	230	226	240
Total Dissolved Solids	1000/--	221	140	220	150
Total Organic Carbon (TOC)	--/--		3.8	2.2	1.7
pH	6.5-8.5		6.5	6.5	6.2
Iron	.3/.3	6.28	1.33	1.18	0.73
Lead	.025/.05		(2.00	(2.00	(2.0

Units are in milligrams/liter
GV= Guidance Value, all other values are Standards

TABLE 3.2-1 cont.
EAST NORTHPORT LANDFILL
LEACHATE INDICATORS

CONSTITUENTS	GROUNDWATER AND DRINKING WATER STANDARDS	CWIS				CWIM				CWID			
		DEC. 1982	APRIL 1986	AUG. 1986	NOV. 1986	DEC. 1982	APRIL 1986	AUG. 1986	NOV. 1986	DEC. 1982	APRIL 1986	AUG. 1986	NOV. 1986
Ammonia	--/2.0	490	490	520	500	480	420	330	330	2.6	0.2	67	0.71
Chloride	250/250	870	880	840	720	670	880	840	760	109	63	70	47
Detergents (MBAS)	.5/--		1.32	0.22	0.22		0.38	0.18	0.11		(0.04	(0.04	(0.04
Nitrate (NO3-N)	10/10		1.6	0.1	(0.10		(0.10	0.1	(0.1		(0.10	(0.10	(0.10
Specific Conduct.	--/--	7500	8200	8090	8430	4900	7000	7100	7500	550	390	425	304
Total Dissolved Solids	1000/--	3730	3300	3350	3160	2680	2900	3320	2980	452	270	390	180
Total Organic Carbon (TOC)	--/--		290	320	310		270	290	300		9.8	13	9
pH	6.5-8.5		7.4	7.7	7.3		7.6	7.7	7.5		7	6.8	6.5
Iron	.3/.3	7.25	2.21	3.88	2.57	10.2	0.77	3.43	4.48	1.61	3.85	4.97	5.3
Lead	.025/.05		(2.00	(2.00	(2.00		(2.00	(2.00	(2.0		(2.00	(2.00	(2.00

Units are in milligrams/liter
GV= Guidance Value, all other values are Standards

TABLE 3.2-1 cont.
EAST NORTHPORT LANDFILL
LEACHATE INDICATORS

CONSTITUENTS	GROUNDWATER AND DRINKING WATER STANDARDS	CW2S				CW2M				CW2D			
		DEC. 1982	APRIL 1986	AUG. 1986	NOV. 1986	DEC. 1982	APRIL 1986	AUG. 1986	NOV. 1986	DEC. 1982	APRIL 1986	AUG. 1986	NOV. 1986
Ammonia	--/2.0	0.6	0.69	2.3	0.71	4.3	4.4	13	2.6	1.4	6.8	5.6	1.1
Chloride	250/250	156	150	195	210	142	140	200	340	196	174	172	153
Detergents (MBAS)	.5/--		(0.04	(0.04	(0.04		0.28	(0.04	(0.04		(0.04	(0.04	(0.04
Nitrate (NO3-N)	10/10		2.6	2.1	2.2		(0.10	0.3	(0.10		0.8	0.8	1.8
Specific Conduct.	--/--	800	840	1010	1250	900	930	1390	1900	1000	460	1100	1120
Total Dissolved Solids	1000/--	162	560	840	820	655	520	1080	1290	784	270	790	670
Total Organic Carbon (TOC)	--/--		5.8	6.1	5.9		8.1	73	8.4		16	21	8.5
pH	6.5-8.5		6.2	6.7	6.4		6.5	7	6.3		6.6	6.9	6.5
Iron	.3/.3	0.73	1.7	1.01	0.68	2.71	0.89	0.61	0.85	18.5	3.65	4.91	5.47
Lead	.025/.05		(2.00	(2.00	(2.00		(2.00	(2.00	(2.00		4	4	(2.00

Units are in milligrams/liter
GV= Guidance Value, all other values are Standards

TABLE 3.2-1 cont.

EAST NORTHPORT LANDFILL
LEACHATE INDICATORS

CONSTITUENTS	GROUNDWATER AND DRINKING WATER STANDARDS	CW3S				CW3D			
		DEC. 1982	APRIL 1986	AUG. 1986	NOV. 1986	DEC. 1982	APRIL 1986	AUG. 1986	NOV. 1986
Ammonia	--/2.0	0.5	8.6	9.6	7.6	2.7	7.2	11.3	17
Chloride	250/250		182	99	104	198	16	200	196
Detergents (MBAS)	.5/--		0.1	(0.04	(0.04		0.12	0.09	(0.04
Nitrate (NO3-N)	10/10		1.2	1.1	1.7		(0.10	(0.10	(0.10
Specific Conduct.	--/--	500	760	758	770	1450	1500	1410	2000
Total Dissolved Solids	1000/--	384	450	600	400	1110	980	1160	1070
Total Organic Carbon (TOC)	--/--		3.8	10	18		19	29	26
pH	6.5-8.5		6.4	6.6	6.2		6.9	7.1	6.9
Iron	.3/.3	0.07	0.95	0.24	0.52	2.83	4.41	2.46	2.83
Lead	.025/.05		2	(2.00	(2.0		3	(2.00	(2.00

Units are in milligrams/liter
GV= Guidance Value, all other values are Standards

TABLE 3.2-2
EAST NORTHPORT LANDFILL
VOLATILE HALOGENATED ORGANICS

CONSTITUENTS	GROUNDWATER AND DRINKING WATER STANDARDS*	UWI			
		DEC. 1982	APRIL 1986	AUG. 1986	NOV. 1986
Vinyl Chloride	5/.3 GV		<3		
Carbon Tetrachloride	5/.4 GV		<3		
Total Trihalomethane	--/--		<12		
Benzene	ND/1.0 GV		<3		
Toluene	50 GV/50 GV		<5		
Ethylbenzene	50 GV/50 GV		<3		
M-Xylene	50 GV/50 GV		<3		
O-Xylene	50 GV/50 GV		<3		
P-Xylene	50 GV/50 GV		<3		

*Units are in micrograms/liter
GV= Guidance Value, all other values are Standards

TABLE 3.2-2 cont.
EAST NORTHPORT LANDFILL
VOLATILE HALOGENATED ORGANICS

CONSTITUENTS	GROUNDWATER AND DRINKING WATER STANDARDS*	CWIS				CWIM				CWID			
		FEB. 1984	APRIL 1986	AUG. 1986	NOV. 1986	FEB. 1984	APRIL 1986	AUG. 1986	NOV. 1986	FEB. 1984	APRIL 1986	AUG. 1986	NOV. 1986
Vinyl Chloride	5/.3 GV		<3				<3				<2		
Carbon Tetrachloride	5/.4 GV		<3				<3				<2		
Total Trihalomethane	--/--		<12				<12				<10		
Benzene	ND/1.0 GV		<3			17*	<5				<10		
Toluene	50 GV/50 GV		<10				8				<5		
Ethylbenzene	50 GV/50 GV	15*	<3			15*	13				<5		
M-Xylene	50 GV/50 GV		<3				<3				<5		
O-Xylene	50 GV/50 GV		<3				<3				<10		
P-Xylene	50 GV/50 GV		<3				<3				<10		

*Units are in micrograms/liter
GV= Guidance Value, all other values are Standards

February results provided by Suffolk County Department of Health Services.

TABLE 3.2-2 cont.
EAST NORTHPORT LANDFILL
VOLATILE HALOGENATED ORGANICS

CONSTITUENTS	GROUNDWATER AND DRINKING WATER STANDARDS*	CW2S				CW2M				CW2D			
		FEB. 1984	APRIL 1986	AUG. 1986	NOV. 1986	FEB. 1984	APRIL 1986	AUG. 1986	NOV. 1986	FEB. 1984	APRIL 1986	AUG. 1986	NOV. 1986
Vinyl Chloride	5/.3 GV		(3				(3				(3		
Carbon Tetrachloride	5/.4 GV		(3				(3				(3		
Total Trihalomethane	--/--		(12				(12				(12		
Benzene	ND/1.0 GV		(3				(3				(3		
Toluene	50 GV/50 GV		(3				(3				(3		
Ethylbenzene	50 GV/50 GV		(3				(3				(3		
M-Xylene	50 GV/50 GV		(3				(3				(3		
O-Xylene	50 GV/50 GV		(3				(3				(3		
P-Xylene	50 GV/50 GV		(3				(3				(3		
Tetrachloroethene	--/--									25*			

*Units are in micrograms/liter
GV: Guidance Value, all other values are Standards

February results provided by Suffolk County Department of Health Services.

TABLE 3.2-2 cont.

EAST NORTHPORT LANDFILL

VOLATILE HALOGENATED ORGANICS

CONSTITUENTS	GROUNDWATER AND DRINKING WATER STANDARDS*	CW3S FEB. 1984	CW3S APRIL 1986	CW3S AUG. 1986	CW3S NOV. 1986	CW3M FEB. 1984	CW3M FEB. 1984	CW3D APRIL 1986	CW3D AUG. 1986	CW3D NOV. 1986
Vinyl Chloride	.5/.3 GV		<2	<2				<2	<2	
Carbon Tetrachloride	5/.4 GV		<2	<1				<2	<1	
Total Trihalomethane	--/--		<10	<4				<10	<4	
Benzene	ND/1.0 GV		<5	<1				<5	<1	
Toluene	50 GV/50 GV		<5	<1				<5	<1	
Ethylbenzene	50 GV/50 GV		<5	<1				<5	<1	
M-Xylene	50 GV/50 GV		<5	<1				<5	<1	
O-Xylene	50 GV/50 GV		<5	<1				<5	<1	
P-Xylene	50 GV/50 GV		<5	<1				<5	<1	
Chlorobenzene	20 GV/20			<2		15#			<1	
cis-1,1-dichloro-ethylene trans-1,1-dichloroethylene	.07 GV/.07 GV			6		12#			6	
Trichloroethylene	10/3 GV			<1					9	
Tetrachloroethylene										
1,1,2,2-tetrachloroethane	.2 GV/.2 GV			<4		15#			9	
Trichloroethene	--/--						23#			

*Units are in micrograms/liter

GV= Guidance Value, all other values are Standards

February results provided by Suffolk County Department of Health Services.

TABLE 3.2-3
EAST NORTHPORT LANDFILL
PRIORITY POLLUTANT ANALYSIS

CONSTITUENTS	GROUNDWATER AND DRINKING WATER STANDARDS	CW4S		CW4D	
		APRIL 1987	MAY 1987	APRIL 1987	MAY 1987
BASE NEUTRAL EXTRACTABLES					
Bis(2 ethylhexyl)-phthalate	4200*/4 GV	73#		83#	
PURGEABLE ORGANICS					
1,1-Dichloroethane	50 GV/50 GV				5
Cis/trans-1,2-Di-chloroethene	--/--				6
Tetrachloroethene					10

All values in micrograms/liter
#Analyte found in Method Blank
*Not included in 100 ug/l summation criterion
GV= Guidance Value, all other values are Standards
NOTE: All Priority Pollutants analyzed, however, only detectable values listed on table.

TABLE 3.2-3 cont.
EAST NORTHPORT LANDFILL
PRIORITY POLLUTANT ANALYSIS

CONSTITUENTS	GROUNDWATER AND DRINKING WATER STANDARDS	CW5S APRIL 1987	CW5S MAY 1987	CW5D APRIL 1987	CW5D MAY 1987
BASE NEUTRAL EXTRACTABLES					
Bis(2 ethylhexyl)-phthalate	4200#/4 GV	200#		360#	

All values in micrograms/liter
#Analyte found in Method Blank
*Not included in 100 ug/l summation criterion
GV= Guidance Value, all other values are Standards
NOTE: All Priority Pollutants analyzed, however, only detectable values listed on table.

TABLE 3.2-4
EAST NORTHPORT LANDFILL
PESTICIDES

CONSTITUENTS	GROUNDWATER AND DRINKING WATER STANDARDS*	UW1			
		DEC. 1982	APRIL 1986	AUG. 1986	NOV. 1986
Lindane	--/--		(0.05		
Heptachlor	ND/.009		(0.03		
Aldrin	ND/.002 GV		(0.04#		
Heptachlor Expoxide	ND/.009		(0.15#		
Dieldrin	ND/.0009		(0.20#		
Endrin	ND/.2		(0.50#		
o,p'DDT	ND/.01		(0.40#		
p,p'DDT	ND/.01		(0.40#		
Methoxychlor	35/35		(1.00		
Toxaphene	ND/.01 GV		(5.00#		
Chlordane	.1/.02 GV		(2.00#		

#Elevated detection limit due to sample matrix interference
*Units are in micrograms/liter
GV= Guidance Value, all other values are Standards

TABLE 3.2-4 cont.
EAST NORTHPORT LANDFILL
PESTICIDES

CONSTITUENTS	GROUNDWATER AND DRINKING WATER STANDARDS*	CWIS				CWIM				CWID			
		DEC. 1982	APRIL 1986	AUG. 1986	NOV. 1986	DEC. 1982	APRIL 1986	AUG. 1986	NOV. 1986	DEC. 1982	APRIL 1986	AUG. 1986	NOV. 1986
Lindane	--/--		(0.05#				(0.03				(0.03		
Heptachlor	ND/.009		(0.05#				(0.03				(0.03		
Aldrin	ND/.002 GV		(0.05#				(0.04#				(0.11#		
Heptachlor Expoxide	ND/.009		(0.05#				(0.06#				(0.60#		
Dieldrin	ND/.0009		(0.01#				(0.12#				(1.30#		
Endrin	ND/.2		(0.24#				(0.23#				(2.00#		
o,p'DDT	ND/.01		(0.40#				(0.47#				(2.50#		
p,p'DDT	ND/.01		(0.16#				(0.24#				(3.00#		
Methoxychlor	35/35		(1.00				(1.00				(1.00		
Toxaphene	ND/.01 GV		(2.50				(2.50				(25.00#		
Chlordane	.1/.02 GV		(0.50				(0.50				(5.00#		

#Elevated detection limit due to sample matrix interference
*Units are in micrograms/liter
GV= Guidance Value, all other values ae Standards

TABLE 3.2-4 cont.
EAST NORTHPORT LANDFILL
PESTICIDES

CONSTITUENTS	GROUNDWATER AND DRINKING WATER STANDARDS*	CW2S				CW2M				CW2D			
		DEC. 1982	APRIL 1986	AUG. 1986	NOV. 1986	DEC. 1982	APRIL 1986	AUG. 1986	NOV. 1986	DEC. 1982	APRIL 1986	AUG. 1986	NOV. 1986
Lindane	--/--		(0.03				(0.13#				(0.03		
Heptachlor	ND/.009		(0.03				(0.16#				(0.03		
Aldrin	ND/.002 GV		(0.03				(0.03				(0.03		
Heptachlor Epoxide	ND/.009		(0.03				(0.05#				(0.03		
Dieldrin	ND/.0009		(0.04				(0.04				(0.04		
Endrin	ND/.2		(0.06				(0.06				(0.06		
o,p'DDT	ND/.01		(0.07				(0.07				(0.07		
p,p'DDT	ND/.01		(0.09				(0.09				(0.09		
Methoxychlor	35/35		(1.00				(1.00				(1.00		
Toxaphene	ND/.01 GV		(2.50				(2.50				(2.50		
Chlordane	.1/.02 GV		(0.50				(0.50				(0.50		

#Elevated detection limit due to sample matrix interference
*Units are in micrograms/liter
GV= Guidance Value, all other values ae Standards

TABLE 3.2-4 cont.
EAST NORTHPORT LANDFILL
PESTICIDES

CONSTITUENTS	GROUNDWATER AND DRINKING WATER STANDARDS*	CW3S				CW5D			
		DEC. 1982	APRIL 1986	AUG. 1986	NOV. 1986	DEC. 1982	APRIL 1986	AUG. 1986	NOV. 1986
Lindane	--/--		(0.03	(0.03			(0.03	(0.03	
Heptachlor	ND/.009		(0.03	(0.03			(0.03	(0.03	
Aldrin	ND/.002 GV		(0.03	(0.03			(0.03	(0.03	
Heptachlor Expoxide	ND/.009		(0.05#	(0.03			(0.03	(0.03	
Dieldrin	ND/.0009		(0.04	(0.04			(0.04	(0.04	
Endrin	ND/.2		(0.06	(0.06			(0.06	(0.06	
o,p'DDT	ND/.01		(0.07	(0.07			(0.07	(0.07	
p,p'DDT	ND/.01		(0.09	(0.09			(0.09	(0.09	
Methoxychlor	35/35		(1.00	(1.00			(1.00	(1.00	
Toxaphene	ND/.01 GV		(2.50	(2.50			(2.50	(2.50	
Chlordane	.1/.02 GV		(0.50	(0.50			(0.50	(0.50	

#Elevated detection limit due to sample matrix interference
*Units are in micrograms/liter
GV= Guidance Value, all other values ae Standards

TABLE 3.2-5

EAST NORTHPORT LANDFILL

OTHER CONSTITUENTS

CONSTITUENTS	GROUNDWATER AND DRINKING WATER STANDARDS	UW1 DEC. 1982	UW1 APRIL 1986	UW1 AUG. 1986	UW1 NOV. 1986
Hexavalent Chromium	--/.05		(0.02		
BOD-5	--/--		(2.0		
COD	--/--		(15		
Phenols	.001/.001		(1.0		
Sulfate	250/250		40		
Arsenic	.025/.05		(2.0		
Calcium	--/--		18.9		
Cadmium	.01/.01		(1.0		
Copper	1.0/.2		(0.02		
Manganese	.3/.3		0.51		
Mercury	.002/.002		(0.5		
Selenium	.02/.01		(2.0		
Silver	.05/.05		(0.02		
Zinc	5.0/.3		(0.02		
Chromium	--/.05		(0.02		
Aluminum	--/--		(0.20		
TKN	--/--		0.62		
Total Nitrogen	--/--		5.62		
T. Coli Bacteria	--/--		(2.0		
Color	--/--		10		
Odor (Cold)	--/--		0		
Sodium	--/--		11.2		
Nitrite (NO2-N)	--/--		(0.1		
Total Alkalinity	--/--		22		
Magnesium	3.5 GV/3.5		7.6		
Hardness	--/--		78.4		

Units are in milligrams/liter

GV = Guidance Value, all other values are standards

TABLE 3.2-6 cont.
EAST NORTHPORT LANDFILL
OTHER CONSTITUENTS

CONSTITUENTS	GROUNDWATER AND DRINKING WATER STANDARDS	CWIS			CWIM			CWID		
		APRIL 1986	AUG. 1986	NOV. 1986	APRIL 1986	AUG. 1986	NOV. 1986	APRIL 1986	AUG. 1986	NOV. 1986
Hexavalent Chromium	--/.05	(0.02			(0.02			(0.02		
BOD-5	--/--	29			13			2		
COD	--/--	900			770			41		
Phenols	.001/.001	14			11			(1.0		
Sulfate	250/250	(4.0			(4.0			7		
Arsenic	.025/.05	9			(2.0			2		
Calcium	--/--	14.2			7.4			17.7		
Cadmium	.01/.01	(1.0			(1.0			(1.0		
Copper	1.0/.2	(0.02			(0.02			(0.02		
Manganese	.3/.3	0.33			0.03			1.55		
Mercury	.002/.002	0.7			(0.5			(0.5		
Selenium	.02/.01	10			6.5			(2.0		
Silver	.05/.05	(0.02			(0.02			(0.02		
Zinc	5.0/.3	0.18			0.02			0.03		
Chromium	--/.05	(0.02			(0.02			(0.20		
Aluminum	--/--	(0.20			(0.02			(0.20		
TKN	--/--	520			430			(0.20		
Total Nitrogen	--/--	522			430			0.2		
T. Coli Bacteria	--/--	(2.0			(2.0			27		
Color	--/--	500			600			30		
Odor (Cold)	--/--	24			35			0		
Sodium	--/--	925			860			50		
Nitrite (NO2-N)	--/--	(0.1			(0.1			(0.1		
Total Alkalinity	--/--	3200			2600			95		
Magnesium	3.5 GV/3.5	47			30			12.2		
Hardness	--/--	228			142			94.3		

Units are in milligrams/liter
GV = Guidance Value, all other values are standards

TABLE 3.2-5 cont.
EAST NORTHPORT LANDFILL
OTHER CONSTITUENTS

CONSTITUENTS	GROUNDWATER AND DRINKING WATER STANDARDS	CW2S				CW2M				CW2D			
		DEC. 1982	APRIL 1986	AUG. 1986	NOV. 1986	DEC. 1982	APRIL 1986	AUG. 1986	NOV. 1986	DEC. 1982	APRIL 1986	AUG. 1986	NOV. 1986
Hexavalent Chromium	--/.05		(0.02				(0.02				(0.02		
BOD-5	--/--		(2. 0				2				4		
COD	--/--		(15.0				45				32		
Phenols	.001/.001		(1.0				(1.0				(1.0		
Sulfate	250/250		70				42				18		
Arsenic	.025/.05		(2.0				(2.0				4		
Calcium	--/--		82				71				18.3		
Cadmium	.01/.01		(1.0				(1.0				(1.0		
Copper	1.0/.2		(0.02				(0.02				(0.02		
Manganese	.3/.3		0.08				7.36				0.27		
Mercury	.002/.002		(0.5				(0.5				(0.5		
Selenium	.02/.01		4				(2.0				(2.0		
Silver	.05/.05		(0.02				(0.02				(0.02		
Zinc	5.0/.3		0.02				0.02				0.02		
Chromium	--/.05		(0.02				(0.02				(0.02		
Aluminum	--/--		(0.02				(0.02				(0.02		
TKN	--/--		0.96				4.7				6.9		
Total Nitrogen	--/--		3.56				4.7				7.7		
T. Coli Bacteria	--/--		1600				350				170		
Color	--/--		10				5				10		
Odor (Cold)	--/--		0				0				0		
Sodium	--/--		63				73				94		
Nitrite (NO2-N)	--/--		(0.1				(0.1				(0.1		
Total Alkalinity	--/--		98				210				320		
Magnesium	3.5 GV/3.5		12.2				16.7				4.1		
Hardness	--/--		255				246				62.6		

Units are in milligrams/liter
GV = Guidance Value, all other values are standards

TABLE 3.2-5 cont.
EAST NORTHPORT LANDFILL
OTHER CONSTITUENTS

CONSTITUENTS	GROUNDWATER AND DRINKING WATER STANDARDS	CW3S				CW3D			
		DEC. 1982	APRIL 1986	AUG. 1986	NOV. 1986	DEC. 1982	APRIL 1986	AUG. 1986	NOV. 1986
Hexavalent Chromium	--/.05		(0.02	(0.02			(0.02	(0.01	
BOD-5	--/--		4.7	3			7.4	2	
COD	--/--		38	(15.0			80	50	
Phenols	.001/.001		6.4	2			(1.0	4	
Sulfate	250/250		24	145			210	280	
Arsenic	.025/.05		(2.0	(2.0			(2.0	(2.0	
Calcium	--/--		72	51.1			74	70.9	
Cadmium	.01/.01		(1.0	(1.00			(1.0	(1.00	
Copper	1.0/.2		(0.02	0.02			(0.02	(0.02	
Manganese	.3/.3		4.95	0.06			2.65	11.9	
Mercury	.002/.002		(0.5	(0.50			(0.5	(0.50	
Selenium	.02/.01		3	2.5			5	4	
Silver	.05/.05		(0.02	(0.01			(0.02	(0.01	
Zinc	5.0/.3		0.02	(0.02			0.02	(0.02	
Chromium	--/.05		(0.02	(0.01			(0.02	(0.01	
Aluminum	--/--		(0.02	(0.02			(0.02	(0.02	
TKN	--/--		8.7	9.7			7.7	29	
Total Nitrogen	--/--		9.9	10.8			7.7	29	
T. Coli Bacteria	--/--		2	8			1600	1600	
Color	--/--		10	(5.0			100	20	
Odor (Cold)	--/--		3	0			17	0	
Sodium	--/--		61.2	51.6			206	249	
Nitrite (NO2-N)	--/--		(0.1	(.10			(0.1	(0.10	
Total Alkalinity	--/--		210	193			35.5	530	
Magnesium	3.5 GV/3.5		17.5	13.3			30	34.2	
Hardness	--/--		252	182			308	317	

Units are in milligrams/liter
GV = Guidance Value, all other values are standards

TABLE 3.2-6 cont.

EAST NORTHPORT LANDFILL
OTHER CONSTITUENTS

CONSTITUENTS	GROUNDWATER AND DRINKING WATER STANDARDS	CW4S		CW4D	
		APRIL 1987	MAY 1987	APRIL 1987	MAY 1987
Antimony	.003/.003	(0.06	(60.0	(0.06	(60.0
Arsenic	.025/.05	8	35	7	22
Beryllium	.003/.003	(5.0	(5.0	(5.0	(5.0
Cadmium	.01/.01	(5.0	(5.0	(5.0	(5.0
Chromium	--/.05	0.04	(0.02	(0.02	(0.02
Copper	1.0/.2	0.29	0.15	0.06	0.08
Lead	.025/.05	17.5	63	55	48
Mercury	.002/.002	0.7	(0.50	(0.50	(0.50
Nickel	--/--	(0.04	(0.04	(0.04	(0.04
Selenium	.02/.01	(5.0	(5.0	(5.0	(5.0
Silver	.05/.05	(0.01	(0.02	(0.01	(0.02
Thallium	.004 GV/.004 GV	(10.0	(5.0	(10.0	(5.0
Zinc	5.0/.3	0.1	0.16	0.14	0.19
Iron	.3/.3	1.8	5.1	2.04	2.31
Cyanide	.2/.1	(10.0		(10.0	
Spec. Conductivity	--/--	1770	1970	990	1010
Chloride	250/250	280	105	199	15
pH	6.5-8.5	5.5	6.9	5.6	6.3
Total Dissolved Solids	1000/--	970	1250	650	700
Total Organic Carbon	--/--	11	11	14	9
Ammonia	--/2.0	3.3	2.1	0.13	0.17

Units are in milligrams/liter
GV : Guidance Value, all other values are standards

TABLE 3.2-5 cont.

EAST NORTHPORT LANDFILL
OTHER CONSTITUENTS

CONSTITUENTS	GROUNDWATER AND DRINKING WATER STANDARDS	CW5S APRIL 1987	CW5S MAY 1987	CW5D APRIL 1987	CW5D MAY 1987
Antimony	.003/.003	(0.06	(60.0	(0.06	(60.0
Arsenic	.025/.05	8	(5.0	(5.0	20
Beryllium	.003/.003	(5.0	(5.0	(5.0	(5.0
Cadmium	.01/.01	(5.0	(5.0	(5.0	(5.0
Chromium	--/.05	0.01	(0.02	(0.02	0.03
Copper	1.0/.2	0.18	0.06	0.04	0.03
Lead	.025/.05	36	20	34	17
Mercury	.002/.002	(0.50	(0.50	1.2	(0.50
Nickel	--/--	(0.04	(0.04	(0.04	(0.04
Selenium	.02/.01	(5.0	(5.0	(5.0	(5.0
Silver	.05/.05	(0.01	(0.02	(0.01	(0.02
Thallium	.004 GV/.004 GV	(10.0	(5.0	(10.0	(5.0
Zinc	5.0/.3	0.11	0.07	0.07	0.05
Iron	.3/.3	3.19	1.6	6.45	1.78
Cyanide	.2/.1	(10.0		(10.0	
Spec. Conductivity	--/--	451	392	214	156
Chloride	250/250	11	(2.0	19	7
pH	6.5-8.5	5.2	6	5.6	5.9
Total Dissolved Solids	1000/--	330	270	150	80
Total Organic Carbon	--/--	15	12.1	6.2	3.3
Ammonia	--/2.0	0.93	(0.02	0.07	0.97

Units are in milligrams/liter
GV = Guidance Value, all other values are standards

REFERENCE 15

File copy

Town of Huntington, N.Y.

Inter-Office Memorandum

Date: August 13, 1984

To: Nicholas A. Sordi, Town Attorney

From: M.E. White for R.B. Ignatow, Director, Environmental Control

Re: Summary Report - SCDHS Private Well Sampling Data Available From the Vicinity of the East Northport Landfill for the Years 1972-1983

As per your request the following is a summary I have prepared of the SCDHS private well sampling data available from Fort Salonga and Kings Park for the years 1972-1983. (Copy of computer printout attached.)

This summary assessment of the available information, specifically the computer printout of data (originally transmitted from SCDHS 5/29/84), is an initial comparison of these sampling data with N.Y.S. Drinking Water and Groundwater Standards and/or guidelines. The summary is presented in the form of a list of the sampling results for wells that reveal high concentrations of certain water quality indicator parameters which could be attributed to the East Northport landfill/incinerator facility.

Also, the sample results included, select the data where standards and/or guidelines for health related parameters are exceeded and those wells shown on the SCDHS map entitled "Location of the Contaminated Drinking Water Wells - Town of Huntington IV-4" dated 3/84, and not those naturally occurring or only related to aesthetic problems. Note also that where such parameters were exceeded I have indicated other related water problems present in the samples.

In addition, I have attached, from the report entitled "Groundwater Monitoring Report -East Northport Landfill" dated July 1983 by H2M, the following:

1. A copy of Appendix I - Description of Key Leachate Parameters
2. A copy of Table 5-2 - Groundwater monitoring constituents to be tested for on a quarterly basis
3. A copy of Table 5-1 - Groundwater monitoring constituents to be tested for on an annual basis.

Within the sampling data set reviewed, specifically referenced earlier, there were 11 samples which revealed high concentrations or contravention of inorganic chemical standards/guidelines. They are as follows:

8

	Zimmerman 71 Meadow Glen Road Kings Park	Chlorides, elevated sodium
	Smith 78 Upper Dock Road Kings Park	Nitrate
*	Siira East Northport Rd. Kings Park	Chlorides elevated sodium presence of free ammonia and sulfate
	PYZ 284 Old Commack Road Kings Park	Nitrate
*	Presti 168 Townline Road Kings Park	Chlorides elevated sodium presence of free ammonia and MBAS
	Mullady 585 E. Northport Road Kings Park	Nitrate presence of sulfate
*	Matuz 150 Townline Road Kings Park (2 samplings 6/10/80, 3/10/82)	Chlorides elevated sodium presence of free ammonia
	Lauben 565 Pulaski Road Kings Park	Nitrate
*	Huntington Ready Mix E. Northport Road Kings Park	Chlorides elevated sodium presence of free ammonia and sulfate
*	Duerwald Construction 168 Townline Road Kings Park	Chlorides elevated sodium presence of MBAS
	Crecwsz 276 Old Commack Rd. Kings Park	Nitrate

* Also note that the majority of these samples showed high specific conductivity values and elevated values for iron, manganese and zinc.

There were also nine samples which revealed high concenterations or contravention of organic chemical standards/guidelines. They are as follows:

Craw 31 Meadow Glen Road Fort Salonga	Tetrachloroethylene
Marino 15 Major Trescott Lane Fort Salonga	Trichloroethylene
Miller 8 Woodmere Drive Fort Salonga	Trichloroethane
Moran Soundview Drive Fort Salonga	Trichloroethane
Scala 54 Meadow Glen Road Fort Salonga	Tetrachloroethylene
Taylor 27 Meadow Glen Road Fort Salonga	Tetrachloroethylene
Tyderman 33 Meadow Glen Road Fort Salonga	Tetrachloroethylene
Ryan 19 Meadow Glen Road Fort Salonga	Trichloroethane
Taimi 15 Meadow Glen Road Kings Park	Trichloroethane

Importantly, I remain available to meet with you and advise you on the environmental aspects of these data and related groundwater problem. However, I reiterate my concerns regarding any presumption of these sampling results. This summary report is provided at your request for the purpose, as you said, of making the information more comprehensible to you. In no way does this represent a complete or final product or conclusive study. Such a study, although not presently available, would require much further data, analysis, interpretation and SCDHS coordination.

Finally, I remind you of the SCDHS request for confidentiality of these data to protect the individuals sampled.

REFERENCE 16

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES IN THE STATE OF NEW YORK PHASE II INVESTIGATION

AMFAR ASPHALT CORPORATION
KINGS PARK, SMITHTOWN, NEW YORK
NYSDEC SITE NO. 152128

PREPARED FOR

DIVISION OF HAZARDOUS WASTE REMEDIATION
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 WOLF ROAD
ALBANY, NEW YORK 12233-0001

PREPARED BY

YEC, INC.
Clarkstown Executive Park
612 Corporate Way
Valley Cottage, New York 10989

In Association With

LAWLER, MATUSKY & SKELLY ENGINEERS
Environmental Science & Engineering Consultants
One Blue Hill Plaza
Pearl River, NY 10965

October 1990

REFERENCE 17

Department of Environmental Conservation

Division of Hazardous Waste Remediation

Quarterly Status Report of Inactive Hazardous Waste Disposal Sites

April 1992

New York State Department of Environmental Conservation
MARIO M. CUOMO, *Governor* THOMAS C. JORLING, *Commissioner*

10

REFERENCE 24

As of July 1984, EPA had designated 17 sole source aquifers (see EPA, 1983, 1984).[12]

---

[11]45 FR 51621. EPA has indicated that it "will not be concerned with reviewing on an individual basis, small isolated commitments of financial assistance such as individual home mortgage loans."

[12]Designated aquifers are:

1. Edwards Aquifer, TX (petition received 1/3/75, designated 12/16/75)
2. Nassau/Suffolk Counties Long Island, NY (petition received 1/21/75, designated 6/21/78)
3. Maryland Piedmont (petition received 10/1/75, designated 8/27/80)
4. Northern Guam (petition received 11/20/75, designated 4/26/78)
5. Fresno County, CA (petition received 8/9/76, designated 9/10/79)
6. Spokane-Rathdrum Prairie, WA-ID (petition received 10/4/76, designated 2/9/78)
7. Biscayne Aquifer, FL (petition received 5/8/78, designated 10/11/79)
8. Buried Valley, NJ (petition received 1/16/79, designated 5/8/80)
9. Cape Cod, MA (petition received 3/4/81, designated 7/31/82)
10. Whidbey Island, WA (petition received 4/31/81, designated 4/6/82)
11. Camon Island, WA (petition received 4/31/81, designated 4/6/81)
12. Kings/Queens Counties, NY (designated 1/24/84)

REFERENCE 30

CHLORDANE

CDN

Common Synonyms	Liquid	Brown	Sharp odor
Chlordan 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-4,7-methanoindene Toxichlor; Octa-klor Velsicol 1068	Sinks in water.		

AVOID CONTACT WITH LIQUID. KEEP PEOPLE AWAY.
Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).
Stop discharge if possible.
Call fire department.
Isolate and remove discharged material.
Notify local health and pollution control agencies.

Fire

Not flammable but solution may be combustible.
POISONOUS GASES MAY BE PRODUCED IN FIRE.
Extinguish with dry chemicals, foam or carbon dioxide.
Water may be ineffective on fire.
Cool exposed containers with water.

Exposure

CALL FOR MEDICAL AID.

LIQUID OR SOLUTION
POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED.
Irritating to skin and eyes.
Remove contaminated clothing and shoes.
Flush affected areas with plenty of water.
DO NOT RUB AFFECTED AREAS
IF IN EYES, hold eyelids open and flush with plenty of water.
IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.
IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.

Water Pollution

HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.
May be dangerous if it enters water intakes.

Notify local health and wildlife officials.
Notify operators of nearby water intakes.

1. RESPONSE TO DISCHARGE

(See Response Methods Handbook)

Issue warning-poison
Restrict access
Should be removed
Chemical and physical treatment

2. LABEL

2.1 Category: None
2.2 Class: Not pertinent

3. CHEMICAL DESIGNATIONS

3.1 CG Compatibility Class: Not listed
3.2 Formula: $C_{10}H_6Cl_8$
3.3 IMO/UN Designation: 6.1/2762
3.4 DOT ID No.: 2762
3.5 CAS Registry No.: 57-74-9

4. OBSERVABLE CHARACTERISTICS

4.1 Physical State (as shipped): Liquid
4.2 Color: Brown
4.3 Odor: Penetrating, aromatic; slightly pungent, like chlorine

5. HEALTH HAZARDS

5.1 Personal Protective Equipment: Respirator for sprays, fogs, or dust; goggles; rubber gloves.
5.2 Symptoms Following Exposure: Moderately irritating to eyes and skin. Ingestion, absorption through skin, or inhalation of mist or dust may cause excitability, convulsions, nausea, vomiting, diarrhea, and some local irritation of the gastrointestinal tract.
5.3 Treatment of Exposure: INHALATION: administer oxygen and give fluid therapy; do not give epinephrine, since it may induce ventricular fibrillation; enforce complete rest. EYES: flush with water for at least 15 min. SKIN: wash off skin with adequate quantities of soap and water; do NOT scrub. INGESTION: induce vomiting and follow with gastric lavage and administration of saline cathartics; ether and barbiturates may be used to control convulsions; oxygen and fluid therapy are also recommended; do NOT give epinephrine. Since no specific antidotes are known, symptomatic therapy must be accompanied by complete rest.
5.4 Threshold Limit Value: 0.5 mg/m³
5.5 Short Term Inhalation Limits: 2 mg/m³ for 30 min.
5.6 Toxicity by Ingestion: Grade 3; oral LD_{50} = 283 mg/kg (rat)
5.7 Late Toxicity: Possible liver damage; loss of appetite and weight.
5.8 Vapor (Gas) Irritant Characteristics: Data not available
5.9 Liquid or Solid Irritant Characteristics: Data not available
5.10 Odor Threshold: Data not available
5.11 IDLH Value: 500 mg/m³

6. FIRE HAZARDS

6.1 Flash Point: Solution: 225°F O.C.; 132°F C.C. Solid is not flammable.
6.2 Flammable Limits in Air: 0.7%-5% (kerosene solution)
6.3 Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide
6.4 Fire Extinguishing Agents Not to be Used: Water may be ineffective on solution fire.
6.5 Special Hazards of Combustion Products: Irritating and toxic hydrogen chloride and phosgene gases may be formed when kerosene solution of compound burns.
6.6 Behavior in Fire: Not pertinent
6.7 Ignition Temperature: 410°F (kerosene solvent)
6.8 Electrical Hazard: Data not available
6.9 Burning Rate: Not pertinent

(Continued)

7. CHEMICAL REACTIVITY

7.1 Reactivity With Water: No reaction
7.2 Reactivity with Common Materials: No reaction
7.3 Stability During Transport: Stable to 160°F
7.4 Neutralizing Agents for Acids and Caustics: Not pertinent
7.5 Polymerization: Not pertinent
7.6 Inhibitor of Polymerization: Not pertinent
7.7 Molar Ratio (Reactant to Product): Data not available
7.8 Reactivity Group: Data not available

8. WATER POLLUTION

8.1 Aquatic Toxicity: 0.5 ppm/96 hr/goldfish/TL_m/fresh water
8.2 Waterfowl Toxicity: LD_{50} = 1,200 mg/kg
8.3 Biological Oxygen Demand (BOD): Data not available
8.4 Food Chain Concentration Potential: High

9. SHIPPING INFORMATION

9.1 Grades of Purity: Technical. A variety of dusts, powders, and solutions in kerosene containing 2-80% chlordane are shipped.
9.2 Storage Temperature: Ambient
9.3 Inert Atmosphere: No requirement
9.4 Venting: Open (flame arrester)

10. HAZARD ASSESSMENT CODE

(See Hazard Assessment Handbook)

A-X-Y

11. HAZARD CLASSIFICATIONS

11.1 Code of Federal Regulations: Combustible liquid
11.2 MAB Hazard Rating for Bulk Water Transportation: Not listed
11.3 NFPA Hazard Classification: Not listed

12. PHYSICAL AND CHEMICAL PROPERTIES

12.1 Physical State at 15°C and 1 atm: Liquid
12.2 Molecular Weight: 409.8
12.3 Boiling Point at 1 atm: Decomposes
12.4 Freezing Point: Not pertinent
12.5 Critical Temperature: Not pertinent
12.6 Critical Pressure: Not pertinent
12.7 Specific Gravity: 1.6 at 25°C (liquid)
12.8 Liquid Surface Tension: (est.) 25 dynes/cm = 0.025 N/m at 20°C
12.9 Liquid Water Interfacial Tension: (est.) 10 dynes/cm = 0.05 N/m at 20°C
12.10 Vapor (Gas) Specific Gravity: Not pertinent
12.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent
12.12 Latent Heat of Vaporization: Not pertinent
12.13 Heat of Combustion: (est.) −4,000 Btu/lb = −2,200 cal/g = −93 x 10⁶ J/kg
12.14 Heat of Decomposition: Not pertinent
12.15 Heat of Solution: Not pertinent
12.16 Heat of Polymerization: Not pertinent
12.25 Heat of Fusion: Data not available
12.26 Limiting Value: Data not available
12.27 Reid Vapor Pressure: Data not available

*Properties refer to undiluted, technical-grade chlordane.

6. FIRE HAZARDS (Continued)

6.10 Adiabatic Flame Temperature: Data not available
6.11 Stoichiometric Air to Fuel Ratio: Data not available
6.12 Flame Temperature: Data not available

APPENDIX E

EPA 2070-13 FORMS

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

EPA

I. IDENTIFICATION

01 STATE	01 SITE NUMBER
NY	

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
SP Materials, Inc.	170 Town Line Road

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG. DIST
Kings Park	NY	11754	Suffolk	103	02

09 COORDINATES LATITUDE	LONGITUDE	10 TYPE OF OWNERSHIP (Check one)
40 52 00.0	73 17 00.0	X A. PRIVATE _ B. FEDERAL _____ _ C. STATE _ D. COUNTY _ E. MUNICIPAL _ F. OTHER _____ _ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION (MONTH DAY YEAR)	02 SITE STATUS	03 YEARS OF OPERATION (BEGINNING YEAR – ENDING YEAR)
05 / 05 / 92	X ACTIVE _ INACTIVE	1983 Present _ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)
_ A. EPA _ B. EPA CONTRACTOR _____ (Name of firm) _ C. MUNICIPAL _ D. MUNICIPAL CONTRACTOR _____ (Name of firm)
_ E. STATE X F. STATE CONTRACTOR YEC, INC. (Name of firm) _ G. OTHER _____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Andrew Kahn	Staff Geologist	YEC, Inc.	(914)2683203
09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
Ira Bickoff	Staff Geologist	YEC, Inc.	9142683203
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO.
Steven Pomaro	Owner	75 Longfellow Drive	5162661006
		Kings Park, NY 11754	( )
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT	9:45 AM	Overcast, 5-10 MPH Southwest Wind

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Mark Mecca	YEC, Inc.	9142683203

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE (MONTH DAY YEAR)
Mark Mecca	YEC, Inc.		9142683203	12 / 2 / 92

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

EPA

I. IDENTIFICATION	
01 STATE: NY	01 SITE NUMBER:

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)
- _ A. SOLID
- _ B. POWDER, FINES
- _ C. SLUDGE
- _ D. OTHER None (Specify)
- _ E. SLURRY
- _ F. LIQUID
- _ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
- TONS _____
- CUBIC YARDS _____
- NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)
- _ A. TOXIC
- _ B. CORROSIVE
- _ C. RADIOACTIVE
- _ D. PERSISTENT
- _ E. SOLUBLE
- _ F. INFECTIOUS
- _ G. FLAMMABLE
- _ H. IGNITABLE
- _ I. HIGHLY VOLATILE
- _ J. EXPLOSIVE
- _ K. REACTIVE
- _ L. INCOMPATIBLE
- _ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			No Waste Observed During Site Inspection
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers) In Groundwater and Soil

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04/STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
IOC	Iron	NA		1030	ug/L
IOC	Manganese	NA		14,500	ug/L
PSD	alpha-Chlordane	57-74-9		3.0	ug/L
PSD	gamma-Chlordane	57-74-9		2.2	ug/L

V. FEEDSTOCKS (See Appendix for CAS Numbers) NOT APPLICABLE

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

YEC Site Inspection, 1992, SP Materials, Inc.
Phase II Investigation, SP Materials, YEC, Inc., 1992

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE: NY	01 SITE NUMBER:

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 A. GROUNDWATER CONTAMINATION — 02 OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

None Reported

01 B. SURFACE WATER CONTAMINATION — 02 OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

Surface Water samples not collected

01 C. CONTAMINATION OF AIR — 02 OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

Air samples not collected

01 D. FIRE/EXPLOSIVE CONDITIONS — 02 OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

Site not declared a fire/explosion threat by Fire Marshall.

01 E. DIRECT CONTACT — 02 OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

Direct Contact is not a concern.

01 F. CONTAMINATION OF SOIL — 02 OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

None Reported

01 G. DRINKING WATER CONTAMINATION — 02 OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

None Observed

01 H. WORKER EXPOSURE/INJURY — 02 OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

None Reported

01 I. POPULATION EXPOSURE/INJURY — 02 OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

None Reported

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE: NY	01 SITE NUMBER:

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 _ J. DAMAGE TO FLORA — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
04 NARRATIVE DESCRIPTION

None Reported

01 _ K. DAMAGE TO FAUNA — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)

None Reported

01 _ L. CONTAMINATION OF FOOD CHAIN — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
04 NARRATIVE DESCRIPTION

None Reported

01 _ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

No waste present on surface at site.

01 _ N. DAMAGE TO OFFSITE PROPERTY — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

None Reported

01 _ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

None Reported

01 _ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

None Reported

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

No other known hazards present at the site.

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

No waste observed at the site during YEC 1992 Site Inspection. C&D material accepted in the past was reportedledly buried on site.

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

YEC, Inc. - Site Inspection Report, SP Materials, 1992.
Phase I Investigation, SP Materials, YEC, Inc., 1989

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	01 SITE NUMBER
NY	

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
_ A. NPDES				
_ B. UIC				
_ C. AIR				
_ D. RCRA				
_ E. RCRA INTERIM STATUS				
_ F. SPCC PLAN				
X G. STATE (specify)	10-83-0134	7/1/83	7/1/84	Construction and Demo.
X H. LOCAL (specify)	1023-30-0059	5/16/83	5/16/86	Mining Permit
_ I. OTHER (specify)				
_ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
_ A. SURFACE IMPOUNDMENT		
_ B. PILES		
_ C. DRUMS, ABOVE GROUND		
_ D. TANK, ABOVE GROUND		
_ E. TANK, BELOW GROUND		
X F. LANDFILL	20	Truck LOads
_ G. LANDFARM		
_ H. OPEN DUMP		
_ I. OTHER _____ (specify)		

04 TREATMENT (check all that apply)
_ A. INCINERATION
_ B. UNDERGROUND INJECTION
_ C. CHEMICAL/PHYSICAL
_ D. BIOLOGICAL
_ E. WASTE OIL PROCESSING
_ F. SOLVENT RECOVERY
_ G. OTHER RECYCLING/RECOVERY
_ H. OTHER _____ (specify)
None

05 OTHER
3 A. BUILDINGS ONSITE

06 AREA OF SITE
9.6 (acres)

07 COMMENTS

A maximum of 20 truck loads was accepted under the C&D permit.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (check one)

X A. ADEQUATE, SECURE _ B. MODERATE _ C. INADEQUATE, POOR _ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

None

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: _ YES X NO

02 COMMENTS

C&D waste was buried and covered over. Site is entirely fenced in.

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

YEC site inspection, SP Materials, 1992.
NYSDEC Region 1 Files
Interview with owner, Steven Pomaro

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

EPA

PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	01 SITE NUMBER
NY	

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (check as applicable)	SURFACE	WELL
COMMUNITY	A. _	A. X
NON-COMMUNITY	B. _	B. X

02 STATUS		
ENDANGERED	AFFECTED	MONITORED
A. _	B. _	C. _
D. _	E. _	F. _

03 DISTANCE TO SITE
A. 1 (mi)
B. 0.6 (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (check one)

X A. ONLY SOURCE FOR DRINKING _ B. DRINKING (other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) _ C. COMMERCIAL INDUSTRIAL IRRIGATION (Limited other sources available) _ D. NOT USED, UNUSABLE

02 POPULATION SERVED BY GROUNDWATER _____

03 DISTANCE TO NEAREST DRINKING WATER WELL _____ (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
40-65 (ft)	Northeast	0-50 (ft)	_____ (gpd)	X YES _ NO

09 DESCRIPTION OF WELLS (including usage, depth, and location relative to population and buildings)

Within a three mile radius of the site, there are Suffolk County Water Authority Wells, the Greenlawn well field, Kings Park Psychiatric Center wells, and a Northport VA Hospital well. Private wells also exist.

10 RECHARGE AREA		11 DISCHARGE AREA	
X YES _ NO	COMMENTS	_ YES _ NO	COMMENTS

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

X A. RESERVOIR, RECREATION DRINKING WATER SOURCE _ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES _ C. COMMERCIAL INDUSTRIAL _ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Willow Pond	_	3 (mi)
	_	_____ (mi)
	_	_____ (mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 8,921 NO. OF PERSONS	B. 33,026 NO. OF PERSONS	C. 76,799 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION .15 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE	04 DISTANCE TO NEAREST OFF-SITE BUILDING
1000	.1 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within written vicinity of site, e.g., rural, village, densely populated urban area)

The site is located in a residential area.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 6 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	01 SITE NUMBER
NY	

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

_ A. 10^{-6} - 10^{-4} cm/sec _ B. 10^{-4} - 10^{-6} cm/sec _ C. 10^{-4} - 10^{-3} cm/sec X D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

X A. IMPERMEABLE (Less than 10^{-6} cm/sec) _ B. RELATIVELY IMPERMEABLE (10^{-4} - 10^{-6} cm/sec) _ C. RELATIVELY PERMEABLE (10^{-2} - 10^{-4} cm/sec) _ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL Ph	
Apprx. 1200 (ft)	NA (ft)	unknown	

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE		
		SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
21 (in)	2.5 (in)	1 %	NNE	1 %

09 FLOOD POTENTIAL

SITE IS IN _____ YEAR FLOODPLAIN

10 _ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTAURINE	OTHER
A. >2 (mi)	B. >1 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

>1 (mi)

ENDANGERED SPECIES: _____

13 LAND USE IN VICINITY

DISTANCE TO:

A. COMMERCIAL/INDUSTRIAL	B. RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	C. AGRICULTURAL LANDS PRIME AG LAND	D. AGRICULTURAL LANDS AG LAND
NA (mi)	0.15 (mi)	1 (mi)	1 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The site is located east of Townline Road, west of Old Northport Road, north of Jericho Turnpike and south of the Long Island Railroad in the Town of Smithtown, Suffolk County, New York. The site is approximately three miles south of the Long Island Sound and Sunken Meadow Creek is approximately 2.4 miles to the northeast (Ref. 11).

The site is fairly level with a 20 foot change in elevation from the north west corner of the site to the north west corner of the top of the excavation pit (930 feet) with the elevation decreasing towards the south west (Plate A). The pit is located in the south east section of the site and the bottom is approximately 27 feet below grade. A berm rises about 32 feet above the rim of the pit immediately east of the excavation. The surrounding area is approximately level with most of the site. The southeast section of the site is at a lower elevation than the areas immediately to the east (Old Northport Road), to the north, and to the northwest (Townline Road) and could receive surface runoff from these areas. The site is unpaved sand and gravel and because precipitation percolates rapidly into these highly permeable materials, overland flow would be negligible.

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Phase I Investigation, SP Materials, YEC, Inc. , 1989.
Phase II Investigation, SP Materials, YEC, Inc., 1992.
USGS, Hydrologic Investigations Atlas HA-709, Sheet 1.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION	
01 STATE	01 SITE NUMBER
NY	

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	4	Aquatec Labs, Vermont	Currently
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL	2	Aquatec Labs, Vermont	Currently
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
HNU PI 101 (PID)	No readings > Background during drilling
CGI (MSA 261)	No explosive conditions reported during drilling

IV. PHOTOGRAPHS AND MAPS

01 TYPE X GROUND X AERIAL

02 IN CUSTODY OF YEC, Inc. Valley Cottage, NY
(Name of organization or individual)

03 MAPS X YES _ NO

04 LOCATION OF MAPS YEC, Inc. Valley Cottage, NY

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

YEC, Inc. Field Notes from monitoring well installation
YEC, Inc., Phase II Investigation, SP Materials, 1992.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION	
01 STATE	01 SITE NUMBER
NY	

II. CURRENT OWNER(S) | **PARENT COMPANY** (If applicable)

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER
Steven Pomaro		SP Materials	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE
75 Longfellow Road		170 Town Line Road	

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE
Kings Park	NY	11754	Kings Park	NY	11754

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first) | **IV. REALTY OWNER(S)** (If applicable; list most recent first)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Interview with Owner, Tax Maps

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION	
01 STATE: NY	01 SITE NUMBER:

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE	08 YEARS OF OPERATION	09 NAME OF OWNER
Steven Pomaro		75 Long Fellow Road		Kings Park	NY	11754	9	Steven Pomaro

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE	14 CITY	15 STATE	16 ZIP CODE
SP Materials		170 Town Line Road		Kings Park	NY	11754

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

PREVIOUS OPERATOR'S PARENT COMPANIES (If applicable)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE	08 YEARS OF OPERATION	09 NAME OF OWNER	10 NAME	11 D+B NUMBER	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE	14 CITY	15 STATE	16 ZIP CODE

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Interview with owner, Tax Maps

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION	
01 STATE	01 SITE NUMBER
NY	

II. ON-SITE GENERATOR No on-site generators of waste.

01 NAME	02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE

III. OFF-SITE GENERATOR(s)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE	01 SITE NUMBER
NY	

II. PAST RESPONSE ACTIVITIES NONE

01 A. WATER SUPPLY CLOSED 04 DESCRIPTION	02 DATE		03 AGENCY
01 B. TEMPORARY WATER SUPPLY PROVIDED 04 DESCRIPTION	02 DATE		03 AGENCY
01 C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION	02 DATE		03 AGENCY
01 D. SPILLED MATERIAL REMOVED 04 DESCRIPTION	02 DATE		03 AGENCY
01 E. CONTAMINATED SOIL REMOVED 04 DESCRIPTION	02 DATE		03 AGENCY
01 F. WASTE REPACKAGED 04 DESCRIPTION	02 DATE		03 AGENCY
01 G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION	02 DATE		03 AGENCY
01 H. ON SITE BURIAL 04 DESCRIPTION	02 DATE		03 AGENCY
01 I. IN SITU CHEMICAL TREATMENT 04 DESCRIPTION	02 DATE		03 AGENCY
01 J. IN SITU BIOLOGICAL TREATMENT 04 DESCRIPTION	02 DATE		03 AGENCY
01 K. IN SITU PHYSICAL TREATMENT 04 DESCRIPTION	02 DATE		03 AGENCY
01 L. ENCAPSULATION 04 DESCRIPTION	02 DATE		03 AGENCY
01 M. EMERGENCY WASTE TREATMENT 04 DESCRIPTION	02 DATE		03 AGENCY
01 N. CUTOFF WALLS 04 DESCRIPTION	02 DATE		03 AGENCY
01 O. EMERGENCY DIKING/SURFACE WATER DIVERSION 04 DESCRIPTION	02 DATE		03 AGENCY
01 P. CUTOFF TRENCHES/SUMP 04 DESCRIPTION	02 DATE		03 AGENCY
01 Q. SUBSURFACE CUTOFF WALL 04 DESCRIPTION	02 DATE		03 AGENCY

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE	01 SITE NUMBER
NY	

II. PAST RESPONSE ACTIVITIES (Continued) NONE

01 R. BARRIER WALLS CONSTRUCTED 04 DESCRIPTION	02 DATE	03 AGENCY
01 S. CAPPING/COVERING 04 DESCRIPTION	02 DATE	03 AGENCY
01 T. BULK TANKAGE REPAIRED 04 DESCRIPTION	02 DATE	03 AGENCY
01 U. GROUT CURTAIN CONSTRUCTED 04 DESCRIPTION	02 DATE	03 AGENCY
01 V. BOTTOM SEALED 04 DESCRIPTION	02 DATE	03 AGENCY
01 W. GAS CONTROL 04 DESCRIPTION	02 DATE	03 AGENCY
01 X. FIRE CONTROL 04 DESCRIPTION	02 DATE	03 AGENCY
01 Y. LEACHATE TREATMENT 04 DESCRIPTION	02 DATE	03 AGENCY
01 Z. AREA EVACUATED 04 DESCRIPTION	02 DATE	03 AGENCY
01 1. ACCESS TO SITE RESTRICTED 04 DESCRIPTION	02 DATE	03 AGENCY
01 2. POPULATION RELOCATED 04 DESCRIPTION	02 DATE	03 AGENCY
01 3. OTHER REMEDIAL ACTIVITIES 04 DESCRIPTION	02 DATE	03 AGENCY

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

NYSDEC Region 1 Files
YEC, Inc. Phase I Investigation, SP Materials, 1989.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE: NY	01 SITE NUMBER:

II. ENFORCEMENT INFORMATION NONE

01 PAST REGULATORY/ENFORCEMENT ACTION _ YES _ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

NYSDEC Region 1 Files
YEC, Inc. Phase I Investigation, SP Materials

APPENDIX F

LIST OF SUPPORTING DOCUMENTATION

LIST OF SUPPORTING DOCUMENTATION

1 REFERENCE DOCUMENTATION

USGS 7.5 minute Series (Topographic) Quadrangle, Greenlawn and Northport, New York, 1969 (Reference 18).

Suter, R., et al., 1949. Mapping of Geologic Formations and Aquifers of Long Island, New York, USGS Bulletin GW-18, Albany, N.Y. (Reference 19).

Smolensky, D.A., et al., 1989. Hydrologic Framework of Long Island, New York, USGS Hydrologic Investigations Atlas, Albany, N.Y. (Reference 20).

Lubke, E.R., 1964. Hydrogeology of the Huntington - Smithtown Area, Suffolk County, New York, USGS Water-Supply Paper 1669-D., Washington D.C. (Reference 21).

Mack, T., Maus, P.E. Direction of Contaminant Plumes in Ground Water of Long Island, New York, By Electromagnetic Terrain- Conductivity Surveys, USGS Water-Resources Investigations Report 86-4045 (Reference 22).

Warner, J.W. et al., 1975. Soil Survey of Suffolk County, New York, United States Department of Agriculture, Soil Conservation Service, April 1975 (Reference 23).

Doriski, T.P., 1987. Potentiometric-Surface of the Water-Table, Magothy & Lloyd Aquifers on Long Island, New York, USGS Water-Resources Investigations Report 86-4189 (Reference 25).

Fetter, C.W., 1988. *Applied Hydrogeology*, second ed., Merrill Publishing Co., Columbus Ohio (Reference 26).

Dragun, J., 1988. *The Soil Chemistry of Hazardous Materials*, Hazardous Materials Control Research Institute, Silver Spring, Maryland (Reference 27).

Eckhardt, A.V., et al. 1989. Relation Between Land Use and Ground-Water Quality In The Upper Glacial Aquifer In Nassau and Suffolk Counties, Long Island, New York, USGS Water-Resources Investigations Report 86-4142 (Reference 28).

Lewis, R.S., Sr. and N.I.Sax, 1987. *Hawley's Condensed Chemical Dictionary*, eleventh ed. Van Nostrand Reinhold, New York, N.Y. (Reference 29).

Bassow, H., 1983. *Land Pollution Chemistry: An Experimenters Source Book*, Hayden Book Company, Inc., Rochelle Park, N.J. (Reference 31).

LIST OF SUPPORTING DOCUMENTATION
(Continued)

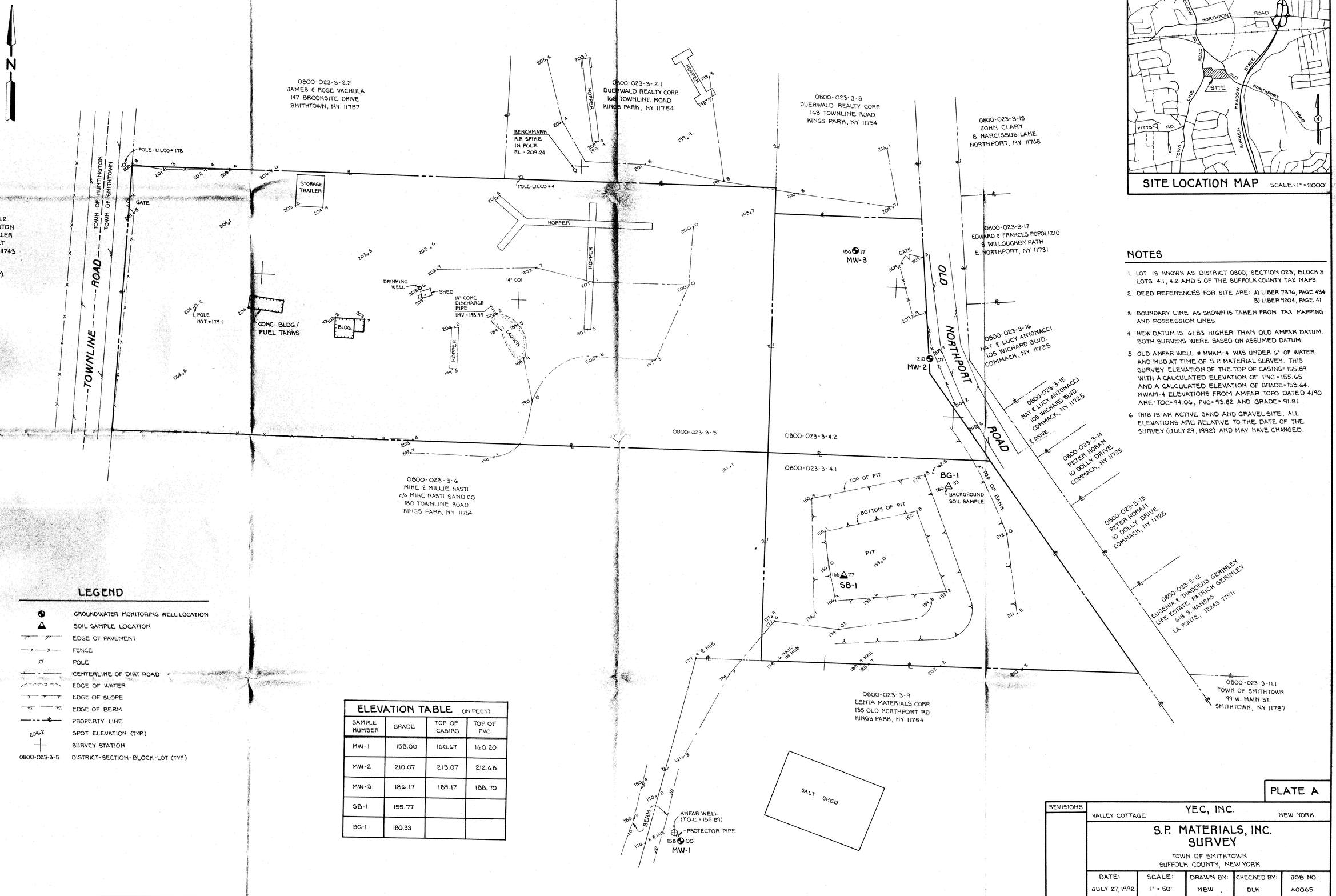
II SUBCONTRACTOR OR SUBCONSULTANT REPORTS

- II.i Soil Gas Survey (Reference 2)
- II.ii Data Validation Report (Reference 5)
- II.iii Analytical Data Package (Reference 4)
- II.iv Grain Size Analysis (Reference 6)

III HEALTH AND SAFETY PLAN (Reference 1)

IV SITE INSPECTION REPORT (Reference 12)

V SAMPLING LOGS (Reference 3)



NOTES

1. LOT IS KNOWN AS DISTRICT 0800, SECTION 023, BLOCK 3 LOTS 4.1, 4.2 AND 5 OF THE SUFFOLK COUNTY TAX MAPS
2. DEED REFERENCES FOR SITE ARE: A) LIBER 7376, PAGE 434 B) LIBER 9204, PAGE 41
3. BOUNDARY LINE AS SHOWN IS TAKEN FROM TAX MAPPING AND POSSESSION LINES
4. NEW DATUM IS 61.83 HIGHER THAN OLD AMFAR DATUM. BOTH SURVEYS WERE BASED ON ASSUMED DATUM.
5. OLD AMFAR WELL # MWAM-4 WAS UNDER 6" OF WATER AND MUD AT TIME OF S.P. MATERIAL SURVEY. THIS SURVEY ELEVATION OF THE TOP OF CASING = 155.89 WITH A CALCULATED ELEVATION OF PVC. = 155.65 AND A CALCULATED ELEVATION OF GRADE = 153.64. MWAM-4 ELEVATIONS FROM AMFAR TOPO DATED 4/90 ARE: TOC = 94.06, PVC = 93.82 AND GRADE = 91.81.
6. THIS IS AN ACTIVE SAND AND GRAVEL SITE. ALL ELEVATIONS ARE RELATIVE TO THE DATE OF THE SURVEY (JULY 29, 1992) AND MAY HAVE CHANGED.

LEGEND

- GROUNDWATER MONITORING WELL LOCATION
- SOIL SAMPLE LOCATION
- EDGE OF PAVEMENT
- FENCE
- POLE
- CENTERLINE OF DIRT ROAD
- EDGE OF WATER
- EDGE OF SLOPE
- EDGE OF BERM
- PROPERTY LINE
- 204+2 SPOT ELEVATION (TYP.)
- SURVEY STATION
- 0800-023-3-5 DISTRICT-SECTION-BLOCK-LOT (TYP.)

ELEVATION TABLE (IN FEET)

SAMPLE NUMBER	GRADE	TOP OF CASING	TOP OF PVC
MW-1	158.00	160.67	160.20
MW-2	210.07	213.07	212.68
MW-3	186.17	189.17	188.70
SB-1	155.77		
BG-1	180.33		

PLATE A

REVISIONS	YEC, INC. VALLEY COTTAGE NEW YORK

S.P. MATERIALS, INC.
SURVEY
TOWN OF SMITHTOWN
SUFFOLK COUNTY, NEW YORK

DATE:	SCALE:	DRAWN BY:	CHECKED BY:	JOB NO.:
JULY 27, 1992	1" = 50'	MBW	DLK	A0065